ESTABLISHED 1819.

SIXTH SERIES.] OCTOBER, 1869. [VOL. IV.—No. 4.

TERMS: $2 A YEAR.

THE

AMERICAN FARMER:

A

MONTHLY MAGAZINE

OF

AGRICULTURE AND HORTICULTURE.

THE OLDEST AGRICULTURAL PUBLICATION IN THE UNITED STATES.

PUBLISHED BY

WORTHINGTON & LEWIS,

NEW OFFICE, No. 4 SOUTH STREET,

NEAR BALTIMORE STREET,

BALTIMORE, MD.

PRINTED BY JAMES YOUNG, No. 114 BALTIMORE STREET.

JOHN S. REESE & CO.,

OFFICE 10 SOUTH ST., 2d Floor.

FLOUR OF RAW BONE.

We will give a money guarantee of the purity of this article. It is *unsteamed, unburnt bone*, reduced to the fineness of *Flour*.

100 lbs. contains 33 lbs. of *animal matter*, and *yields* 4½ *lbs. actual ammonia*, which is all that pertains to *raw* bone.

Bones subjected to *steam pressure lose* a large part of their *animal matter*, and hence their value is *greatly impaired*. When steamed, they can be made tolerably fine by ordinary means. They may be detected by their peculiar white appearance and the absence of *odor*.

100 lbs. Flour of Bone contains the value of 150 lbs. of *acid dissolved bone*, or Super-Phosphate, because *one-third* of properly dissolved bone is acid and water. *Flour of Bone* is as quick and active as Super-Phosphate or dissolved bone, and is consequently worth at least 25 per cent. more per ton. We recommend 250 lbs. per acre, where 300 *lbs. Super-Phosphate* or dissolved bone would be applied. The manufacturers are the patentees of the only known machinery by which raw bone can be reduced to the fineness of flour.

JOHN S. REESE & CO.,

No. 10 SOUTH STREET, (2d floor,)

oct SOLE AGENTS.

RUTH'S CHALLENGE SOLUBLE PHOSPHATE.

This fertilizer is prepared in Baltimore from the very best materials and designed especially to take the place of A. No. 1 Peruvian Guano. It will be found as active as Guano and much more durable in its effects.

It is made upon the principle that the measure of our prosperity is the prosperity of the farmer, and every one who uses it may confidently rely upon large crops, unless injured by providential acts. It is indeed the "CHALLENGE" Fertilizer of the times, and in order that it may always remain such, we have engaged in its manufacture the very best chemical skill in this country.

Price in Baltimore $60.00 per ton of 2000 pounds.

For further particulars address

R. J. RUTH & CO., 79 South street, Baltimore, Md.

For sale by responsible dealers everywhere. aug-3t

THE

AMERICAN FARMER:

DEVOTED TO

Agriculture, Horticulture, and Rural Economy.

[ESTABLISHED 1819.]

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

Sixth Series. BALTIMORE, OCTOBER, 1869. Vol. IV.—No. 4.

OCTOBER.

"Summer's gone and over!
Fogs are falling down;
And with russet tinges
Autumn's doing brown.

"Boughs are daily rifled
By the gusty thieves,
And the Book of Nature
Getteth short of leaves."

Work for the Month.

This month brings to the farmer the pleasant work of gathering up the results of the season's labor, and making due disposition of them, and is at the same time, the hopeful, or shall we rather say, faithful, season of seed-time. Is it not, indeed, a true exercise of faith that commits to the dead earth the dead seed, and looks with assurance to the new and fruitful life with which it shall rise from its burial? Our hope of a harvest comes of our faith in the miracle. But neither avail us without the work, and that must be done promptly and intelligently.

It must be done promptly, because it is even now getting beyond the time for early seeding, and that, as our readers know, has got to be the great and special necessity of the wheat crop. While a very favorable growing season, on the application of stimulating crops in spring, may force a great growth of straw, neither the one nor the other insures a good crop of grain. The foundation of this must be laid now, at this season, in the underground growth of plenty of good roots. The fall is the season of root growth especially, the spring of straw, and a full crop of grain must have both roots and straw. For the full growth of roots *time* is wanted in the fall, and the more the better; therefore those who have not now seeded in this latitude should sow promptly.

But the work, we said, must be done *intelligently*, as well as promptly. We must work up the best information we can command. This includes all those precepts as to preparation of the ground, the proper putting in of the seed, and the necessary amount of fertilization. And that we may best avail ourselves of these, let us bear in mind that this wheat crop, above all, as we are most dependent on it—it is our "staff of life"—is also most dependent of all crops upon that care that we can give it. It is the poorest and most uncertain of crops on poor lands, poorly managed, and the most reliable on well managed, good lands. Therefore it must be sown on land already very good, or made so at sowing by sufficient manuring—and this manuring as near to the starting roots as may be—and when practicable, put in, in part at least, with the drill, by the same operation that sows the seed. One of the most successful wheat growers of the State, farming land of the best quality, used to tell us that, by way of insurance, he put in with the seed fifty pounds to the acre of Peruvian guano on his best lands.

TOBACCO.

The saving of the crop of tobacco should be now finished up at the earliest time practi-

cable. Let the tobacco in the house have all the benefit of sun and air that can be given it, but close the doors and windows in wet and foggy weather, and when the nights are very damp. When fire cannot be used, much damage to the quality of the tobacco may be prevented by a little care in shutting up the houses closely, in anticipation of fogs that are sometimes so injurious. Occasionally during the curing it may be found necessary to close the doors against very high winds, which break or bruise such parts as are exposed to them. The use of fire in curing the crop quickly has always been, to some extent, practiced. The danger from burning and injury from smoke, when open fires are used, have deterred planters, in a great measure, from its use. In portions of Virginia and North Carolina the wood is now first converted into coal, which is used with safety and success in curing. In the upper counties of Maryland the fine tobacco there grown is cured in small houses, with stone flues made for the firing, which have their openings sometimes on the outside of the house, and sometimes within. But the furnaces for curing, now made by two Baltimore manufacturers, we have no reason to doubt will prove the best and only means of proper and safe curing by fire. They may be used for wood or coal, give heat enough that can be duly regulated, economize strictly the fuel, are perfectly safe, and get rid of all smell of smoke.

All houses for curing tobacco should be provided with ventilation on the top of the roof, to secure a free circulation of the air, so necessary to proper curing.

THE CORN-FIELD.

Tops and blades should be secured at once in the barn or stacks, or the old-fashioned fodder-house. They make very valuable provender for horses and milch cows, and should not be exposed to loss. There is little corn fit to be gathered this month, except for present use.

PUMPKINS.

Gather these at once, and bring them together convenient for use. They should be fed to milch cows and hogs and consumed during the fall months.

POTATOES.

Dig potatoes after the middle of the month, when the ground and weather are dry. Let them be exposed as little as possible to the light, but put them away as soon as the external moisture is dried off. If they be well covered, and due care be taken to keep out water, they can be as well preserved in kilns as cellars. Select a dry spot for the kilns, and, if possible, light, porous soil. Heap the potatoes on the surface in conical piles of thirty to fifty bushels—the smaller heaps are more manageable—and cover with straw first and a few inches of earth. Before hard frost sets in put on another thick covering of straw or other litter over the earth, and twelve inches more of earth on that. After all, it is water, rather than cold, that damages them, therefore be sure that no water can settle about the heaps.

TIMOTHY.

Sow timothy immediately after putting in the wheat, while the ground is light and fresh.

HOG FEEDING.

Hog feeding should be begun at once, giving grain in moderation, and increasing it by degrees. It is good economy to continue moderate feeding during a considerable period of time, rather than to feed high during a short time. A smaller quantity of food is more thoroughly digested and more fully appropriated by the feeding animal. Economy requires, too, that the feeding should be done while the weather is moderate, so that there be little consumption of food for keeping up the necessary animal heat. The best bacon is made from a hog that takes on flesh gradually, and is fattened in a small, clean grass lot, with a stream of running water. But the greatest economy of food is in close pens, raised from the ground. Especial care must be taken in this case to keep the pens clean, and to save and compost the very rich manure which will be made.

CATTLE AND SHEEP.

The same remarks as to moderate and early feeding apply with even more force to cattle and sheep. The same quantity of food, covering a longer time in its consumption, will make more meat; and more will be made in warm than in cold weather. Be sure that all the stock is protected from cold rains, and do not allow cattle to rest on the bare ground at night. Keep them as comfortable as possible, but, under no circumstances, allow them to want a plenty of pure air. An open shed and a dry bed is the best arrangement for them.

SEED CORN.

Select now seed corn for next year. Choose from prolific stalks only the best grown and best filledout ears, and the lowest one upon the stalk. Hang them where they will dry thoroughly, and then put them away safe from mice and rats.

The Vegetable Garden.

OCTOBER.

Celery.—Continue to earth up celery as the growth advances, but only when the ground is dry.

Spinach and other Greens.—Keep growing crops of these thoroughly weeded and sufficiently thinned. Seed may still be sown for spring use.

Early Cabbage.—Plants may be set out after the middle of the month, where they are to stand during the winter. Prepare the ground well by digging and manuring, and if convenient, lay off the ridges to run east and west. Let the ridge be well thrown up, and plant about the middle of it on the north side.—The plants may be put about a foot apart, to be thinned to half, for early spring collards.

Cauliflower.—Plants of this vegetable should be set in cold frames, as they need the protection of glass during winter. They may be preserved in this way and set out in spring when hard frosts are over.

Lettuce.—Plants of hardy sorts may be set out in a warm border and a portion in cold frames for early spring use.

Roots.—Take up and secure beets and carrots the last of the month.

The Flower Garden.

Bulbs.—Plant bulbs of all kinds now in beds and borders. Pot Hyacinths, Tulips, Narcissus, Crocus and Snowdrops. To prolong the time of blooming they should be planted from time to time.

Carnations and Picotees.—These not yet rooted from layers, must be taken off the stools and planted under glass. Those with a few fibres may be potted. The old fashioned clove carnation may be readily propagated from cuttings, in the spring.

Chrysanthemums.—Keep these well watered with liquid manure, and tie up securely, as the weight of the bloom is apt to break off slender stems. Those grown in pots should not be put into the house so long as they are safe from frost.

Cyclamens.—These should be taken into the house, and have every encouragement to grow, keeping them near the light.

Fuchsias.—These will continue to bloom till late, if kept well protected. Plants going out of bloom should be kept exposed to the sun until there is danger of hard frost, and left unpruned till the time for taking them indoors. Then cut them in slightly, and place them in any moderately dry place, until they commence to grow next spring.

Green-House Plants—that have been standing out should now be taken into the house.

Deciduous Trees and Shrubs.—These may be planted now, without waiting for the fall of the leaf, and only when the ground is in good order for working.

The Fruit Garden.

Gathering Fruit.—Continue to gather fruit as it approaches maturity, observing to do it when fruits and trees are dry, and that it must be done by hand if intended for keeping. Neither pears nor apples should be permitted to get quite ripe on the trees, yet they are not ripe enough to be gathered until the stem will part from the branch without breaking when gently twisted.

Planting Trees.—Trees that are to be planted in fall may be planted now whenever the ground is in readiness for them—the sooner the better. Apples and pears are better planted in the fall; stone fruits are more commonly planted in spring. Plough at once deeply, and manure, putting the ground in such condition as is required for a crop of eight barrels of corn. In this case there need be little if any manure put immediately around the tree; nor in any case should anything but good compost be used. The ground should be made and kept rich enough to secure a thrifty, healthy, but not excessive growth of wood.

Dwarf Trees.—In the fruit or vegetable garden dwarf trees only should be planted.

Raspberries, Gooseberries and *Currants* may now be planted.

Fruit Enough for a Family.

The question as to how many plants are required of any one kind to supply a family with fruit, is one frequently asked, but a difficult one to answer.

First, it will depend somewhat upon the size of the family to be supplied. Second, a family that has been accustomed to having an abundance of fresh, good fruit, will consume double the quantity of one that has depended upon the market for a supply. Third, some kind of plants will produce twice as much as others of the same species. But for the sake of giving an answer to the question which shall not be very far from the truth, I will name a list of the small fruits, giving the number of plants of each variety that will be required to supply a family of moderate size, say from six to twelve persons. For convenience sake we will suppose that the plot of ground where these plants are to be cultivated is one hundred feet long, and our rows or beds are to occupy the entire length.

STRAWBERRIES.—Two beds, four feet wide, with a walk three feet wide between them, one row of plants to be set in the centre of each bed, and one on each side, within six inches of the edge, the plants to be set one foot apart in the rows. Thus we have three rows in each bed, or three hundred plants. The two beds require six hundred. One bed should be planted with Wilson's Albany, the other may be filled with Agriculturists, Jucunda, Durand, Hovey, or any of the good kinds; but the Wilson will give the most fruit as a general thing, whether the other varieties do well or not.

RASPBERRIES.—Six feet from one of the Strawberry beds plant one row of Black Cap Raspberry, placing the plants four feet apart in the row, and at this distance it will require twenty-six plants to fill the one hundred feet. The American Improved or Doolittle is a well known variety, and the fruit is as large and good, and probably the very best. Six feet from the row of Black Caps, plant a row of Philadelphias. If the plants are small, then two may be put in each hill; but if good and strong, one will be sufficient. The plants are to be the same distance apart as the Black Caps. The Philadelphia is not the best in flavor, but the plants are very hardy and yield enormous crops. If your garden is in a locality where the varieties of the Antwerp family do well, and you have no objection to taking the trouble of protecting in winter, then the Fastolff, Franconia, French, or some similar variety may be substituted. The Philadelphia, however, is very much like the Wilson Strawberry, not the best in quality, but pretty certain to give a crop. Two rows of the Raspberry would not probably be any too many, if a family wished to put up fruit for winter use, a thing which most good housewives do in these times of cheap self-sealing fruit jars.

CURRANTS.—Two rows of Currants, one of White Grape and one of Cherry, or of any other good variety, there being several equally as good for home use. The plants may be placed the same distance apart as the Raspberries, although the rows may be (if the saving of room is an object) set four feet apart. The White Currants are sweeter than the Red varieties, although the latter are usually preferred for jellies.

GOOSEBERRIES.—There are very few people who care much for this fruit, but it is well to have it at hand if it should be wanted. One row of twenty-six plants, when fully grown, will yield from three to six bushels, provided the American varieties are planted. Houghton, Cluster, and Cluster Seedling are good, but rather small. Downing, or Mountain are larger. If the Black Currants are favorites and Gooseberries are not, then one row might be made up of Gooseberries and Black Currants.

BLACKBERRIES.—One row of Wilson's Early and one of Kittatinny would be my choice, judging from what is already known about these two new varieties. Set the plants the same distance apart in the row as with Raspberries, but the rows should be at least seven feet apart. It is better not to set the rows of Blackberries side by side, but plant a row of Raspberries between. In this way the plants will not become mixed, as they will be most sure to do if grown near together.

GRAPES.—Two rows of Grape Vines, if of hardy and productive kinds, will yield from two to five hundred pounds annually, after they have become well established. The vines should be planted six to eight feet apart each way, varying according to the system of training and pruning to be adopted. Twenty to twenty-five vines will be required for the two rows. Hartford Prolific and Concord are recommended for a sure crop. If other and better flavored varieties are known to do well in the vicinity, then they may be taken if pre-

ferred. But the two named will do almost anywhere and in all soils.

There are many other species of small fruits that might be named, but the foregoing list comprises nearly all of those usually found in ordinary gardens. And it is doubtful if one garden in a hundred contains one-half the number of kinds I have named, or as many plants of each. There is no sufficient reason why every garden in the country should not contain an abundance of small fruits, even if there is not sufficient room for the larger kinds. But as the smaller fruits, as a class, will do well in partial shade, there seems to be no excuse for not growing either, unless the cost of the plants is a serious objection. For the purpose of putting the foregoing list into a condensed form, I will recapitulate the items:

	No. of Plants
Strawberry Plants	600
Black Cap Raspberry	25
Philadelphia "	25
Fastolff, or other varieties	25
Currants, 2 varieties	50
Gooseberries	25
Blackberries, 2 rows	50
Grapes, 2 rows	25
Total No. Plants	825

There are 825 plants which occupy a plot of ground less than 80 by 100 feet, which if well cared for will yield a continual feast for three or four months in summer, with a fair surplus for Winter use. The first cost of the plants should not be over fifty dollars, and all of them be of the best quality.

There is probably no two fruit growers in the country who could agree upon a list of a dozen varieties of any one species of fruit, consequently it is not to be expected that any one of the ten thousand nurserymen in the United States will agree with me in recommending the list I have given. One will have a pet grape or raspberry which he knows, or thinks he knows, to be the very best one of its kind, and, as a matter of course, it *must* be recommended. These endeavors on the part of nurserymen to continually recommend the very best in *quality* is all very well, and perhaps a very praiseworthy zeal on their part, but it must also be admitted that the amateur fruit grower often has to pay a very high price for the little very good fruit he gets. I paid one hundred and fifty dollars some four years since for fifty grape vines, of one of the very choice varieties; but up to the present time no amount of coaxing or cultivation can induce these vines to produce a single bunch of fruit. I have no doubt of the excellence of that variety, but how long will I have to wait for the fruit? Other varieties planted at the same time have yielded abundantly for three years past. Perhaps they are not quite so good as those promised in the future, but they are *grapes* which many will persist in calling excellent; probably it is because they have no better ones with which to compare them.—*Cor. Whitlock's Horticultural Advertiser.*

Comparative Value of Hay, Corn and Roots.

An acre of ground retained expressly for hay yields on an average not more than one and one-half tons of vegetable food; an equal space planted with carrots or ruta-bagas will yield from ten to twenty tons, say fifteen tons, which is by no means a high average, and has often been attained without any extraordinary cultivation. It has been ascertained by careful experiment, that three working horses, fifteen and one-half hands high, consume hay at the rate of two hundred pounds per week, or five tons and one thousand and forty-eight pounds per annum, beside one and one-half bushels of oats per week, or seventy-eight per annum. By a repetition of the same experiment it was found that an unworked horse consumed hay at the rate of four and one-quarter tons per annum.

The produce, therefore, of nearly six acres of land is necessary to support a working horse for one year; but half an acre of carrots at six hundred bushels per acre, with the addition of chopped straw, while the season for feeding them lasts, will do as well, if not better. These things do not admit of doubt, for they have been the subject of exact trials, as some of your agricultural friends can testify.

It has also been proved that the value of one bushel of corn, together with the fodder upon which it grew, will keep a horse in good working order for a week. An acre planted with corn, and yielding sixty bushels, will be ample to keep a good sized horse in working order for one year.

Let the farmer, then, consider whether it is better to maintain a horse on the produce of half an acre of ruta bagas or carrots, or upon the produce of an acre of corn; or, on the other hand, upon the hay and grain from six acres of land—for it will require six acres of good land to produce the necessary hay and grain as above. The same reasoning might be made use of in the feeding of cattle and sheep.—*Stock Journal.*

For the "American Farmer."

The Origin and Cause of the Disease of the Silk-worm.

Dr. Lebert, in Zurich, Switzerland, is the man to whom we are indebted for the discovery and information regarding the disease of the silk-worm. He denotes this state as a degeneration of the system of subsistence, occasioned by a *fungus* of oval shape and the size of 9.600 part of an inch, which luxuriates in all parts of the body, the blood and the silk glands. This "cryptogram" was named by its discoverer "panhistophyton ovatum" (Lebert.) The luxuriant growth of these fungus cause a general corruption of the blood, disturbance of the functions, and finally barrenness, as even the butterfly is not spared. The symptoms of this disease are, 1, the unequal development of the worms; 2, the diminished appetite of this, in a healthy condition, greedy insect; 3, the abnormal coloring of the skin; 4, their leaving the leaves, roving about without plan; 5, the great mortality during four periods of their life; 6, the arising of black spots on their skin, feet and horn; 7, the flow of a dark colored moisture from the veins of the wings of the butterflies; 8, the difficulty of impregnating the females. Of eggs that have been washed, it cannot be decided if they are the produce of healthy or diseased butterflies. But this question is of less importance. Eggs from sound insects have turned out a failure. Even of eggs imported direct from China in *original* packages, some have produced a superior result, and others, in *different localities*, have been a failure. Eggs notoriously produced by sick insects, have, in other localities, produced a good result.

Director Kamphausen, on the Rhine, is the man to whom we are indebted for the discovery that the disease is caused by feeding diseased mulberry leaves. He made the following observations: For feed during the first period, or age, the leaves of mulberry bushes were used, these bushes having been manured the same year and two years previous. The worms enjoyed perfect health.—During the other ages the leaves of old mulberry trees, which had been manured two years previous, were used. The soil in which these trees grew was very porous, consequently not well adapted to withstand a hot and dry season. The development of the worms during their first age, was normal; color, appetite and casting of their skin, was normal. The second casting of their skin was also normal; the color of their skin was clear, their body transparent; as an average, their appetite good, and their growth prospering. While the cocoons were approaching their third sleep, a remarkable phenomenon took place. The leaves, although fresh and green, fed immediately after gathering from the trees, were, in the course of twenty-four hours, covered with a multitude of fine white, stiff threads, from one to two inches long. At first observation, one might have believed that these threads had been spun by the silk-worms to ease the casting of their skin. But as silk thread of the length of from one to two inches, in such number, could not be produced by the worms in their first age, the phenomenon had to be investigated. By the aid of a good microscope it was easily discovered that the threads were *not* produced by the worms, but from the mulberry leaves. The threads extended in a straight line out from the edges of the leaves, where the worms had been gnawing, and covered the space in all directions, preventing the worms from moving about Still closer observation developed the fact, that other threads were present, having the appearance of *fungus*. These threads were 2304 part of an inch long, and had at their end a full round head, evidently a seed core, which, like the stem, first appeared white and afterwards turned black and wrinkled, which indicated its ripeness. It must be remarked, that the leaves appeared *perfectly* healthy, green and luxuriantly developed, and that not one single leaf had a rust spot. Further investigation completed the proof, that the disease and death of the cells of the mulberry leaves had already taken place while the leaves were attached to the trees. On the leaves the disease showed itself quite plainly. By close observation, the small but distinct brownish-black spots will be found on the *sunside* of the leaves, whereas they are not present on the other side. The arising of these spots can be seen by observing the leaves at *sunrise*. Out of the leaves a small drop bursts forth, which dries by and by, and during its drying up, turns brown. The edge is less dark and nearly transparent. If this spot is washed off directly after its appearance, the place remains transparent. If it is washed off later, the place is no more to be seen. If these spots are scraped off when

dry, the same substances are found in them as comes out from the trunk of the mulberry tree, the cherry tree and apricots, when they are blighted, and which fluid, by its alliance with oxygen, forms rosin. These spots are found on every kind of mulberry tree. On some leaves they are single, on others in large numbers. Meanwhile it has been noticed that they are rarer on trees growing on moist, loose and richly manured soil, whereas on hard, dry, and unmanured land, they abound. These diseased leaves support another kind of fungus, thread-like, but *soft* and fine, whereas the threads of the fungus described above are *hard* and straight.

The decision of the question: whether the fungus are the cause of the disease, or whether the disease of the trees is the cause of the fungus, is of no importance; the bad effect on the worms in both cases is the same. For in the first case the fungus take at least a part of the nourishment out of the sap of the nourishing plant, which thereby is led to destruction. In the second case, the fungus feed on the already diseased and death cells, like most of the film fungus which first commence to luxuriate when decomposition has taken place. It is, therefore, a positive fact, that with the appearance of the fungus on the mulberry leaves, the period has arrived when the decomposition of the normal mixture of the sap takes place. Besides the above facts, there is another, until lately unknown, which proves the disease of the mulberry tree. It is a well known fact that the mulberry tree feeds no other insect than the silk-worm. On a healthy mulberry tree there has never been found any kind of animal which has fed off its leaves or made the tree its home. But since the mulberry tree suffered from the before-mentioned fungus, a very small animal, of which nothing has been known before, overruns the leaves. Its smallness (416 part of an inch) and the rapidity with which it moves, prevents its catching, and an accurate scientific description cannot be given. But by the use of a microscope its shape and color has been established. The brown marble-grained back of its round body is similar to the designs of the brown silk-worm (negrone), which now and then is found amongst the worms. The sides and belly are transparent like the healthy silk-worm in spinning state. The legs are fine and very high. Their number has not been established.

The deviation of the worms from their accustomed habits, when in a healthy state, appears at their third age, when they are going to cast their skin, or if this period has been luckily passed, at the fourth change of skin. A great number of the worms may go to sleep simultaneously, but they do not awake together. One-half do not awake at all, their dead bodies to be found among the wilted leaves. Out of the other half only some few gain their object after two, three to five days, whereas, if healthy, they get through in twenty-four hours. But even this is a fortunate case; the greatest number of the worms do not even reach this state of development. Instead of fixing themselves for sleeping at the approach of this period, they quickly leave the apparently healthy leaves and move about until at last death releases them of their misery.

The approach of this disease is noticed by the relaxation of all animal functions. Their skin loses its clear and delicate appearance. During this change, the cocoons commence to perspire—small drops of a sticky nature gather on their backs; this fluid soon disappears or dries up; an eruption, similar in color and shape to a cauliflower, now breaks out. The horn appears to be the most favored spot for these eruptions. First they are generally noticed there, and particularly on the point which bends downward, as if withered. Later, the spots appear on the legs, very soon turn black, and the worm loses all power to hold on. Their inability to hold on is a *sure* sign that the disease has appeared, even if the spots should not be visible. If these spots appear soon after their fourth change of skin, all hopes of a satisfactory result must be abandoned. Until they commence spinning, six or seven days pass, leaving ample time for the spots to develop themselves over the whole body. But if the spots do not appear until the third day before the fifth change, they will be able to spin and form a tolerably good cocoon, which will be short in *quantity*, but *not* in *quality*. White worms are more delicate, and die before the spots are visible.

The destructive influence of this epidemic is not broke by the spinning of the worms. Particularly the females are destroyed.—Amongst the white spinners only fifty females were found in three hundred cocoons. The creeping out of the butterfly from the

cocoon is opposed by many difficulties; they either die after they have changed in the cocoons, not being able to burst them open, or even if bursted, not able to crawl forth. Such butterflies as have had strength enough to break through the cocoons, are seen crawling about slowly and weak. A great number of them are crippled in their wings and show a swollen body, particularly the females; the males are mostly more active than the females and show more inclination to coition. Coition does not take place at all or very indifferently. The black spots are found on the wings and different other places on the body, but not to such extent as on the cocoons. Under the wings also black spots are found, and a peculiar swelling of the veins in the wings, which, if opened, produce a dark fluid, or if they open by themselves, from the peculiar black spots. Impregnated females lay few or no eggs, but if they lay any, their appearance is similar to sound eggs.

The above mentioned facts entitle us to say and believe that the disease of the silk-worm is the *result* of the *disease of the mulberry tree!* The cause of the disease of the mulberry tree, as has also been shown above, is the *condition of the soil.* The insufficient supply of the necessary mineral substances and water, which must be so much more destructive where, by great heat, the evaporation is increased, or where, by a shady situation, in spite of the heat, the taking up of carbonic acid is interfered with, are the principal causes. The black spots on the mulberry leaves are reflected on the body of the butterfly. There is no insect more closely connected and interwoven with its feed plant than the silk-worm with the mulberry tree. Every step of development of the tree is followed by a corresponding development of the silk-worm; when the buds on the tree appear, embryonal changes are observed in the eggs; when the bloom appears, the worm comes to life; when the fruit commences to ripen, the worm spins, and when the fruit has fully ripened, the butterfly appears. The silk-worm, in fact, is the living fruit of the mulberry tree; any change in the sap of this, causes a corresponding change in the blood of the animal.

To put a stop to this disease at once is beyond our power, but we may hasten the return of our mulberry trees to a healthy state, by; 1, loosening the soil around our trees as far as three feet from the trunk; 2, manuring every tree with *liquid* manure, which, after hot days, has to be repeated every evening, as long as the worms are fed; 3, if no liquid manure is handy, take a solution of Chili saltpetre or guano in proportion of one pound to twenty quarts of water; this proceeding is particularly adapted to old trees and such as are growing in heavy clay soil, or light, poor, sandy soil; 4, blighted trees often regain their health if they are manured with *glue.* Take one pound of common glue, boil it until every particle has been dissolved, then mix with thirty quarts water, and give each tree, at the foot of its trunk, two or three quarts. L. A. HANSEL.

Fairfax county, Va.

Threshing from the Field.

Steam threshing machines are destined speedily to take the place of the horse machines. Then we can thresh out our grain as we draw it in from the field, and put the straw in the barn. And to those farmers who are short of barn room, and who have to stack their grain, this plan will be of even still greater advantage. It saves all the expense and loss of stacking. In stacking grain we always have two men, or a man and a strong boy, on the stack; and in threshing from the stack, it requires two men, and sometimes three, to pitch the grain off the stack to the machine. Now, in drawing directly from the field to the machine, all we need is one man to pitch the grain from the wagon to the machine, and consequently we save the labor of four or five men. We require three wagons and two teams, one man to pitch, and three men to load, drive and unload. This force will furnish the grain as fast as any ten-horse power machine can thresh it. Last year I was all through harvesting and threshing by the first of August, except some oats, and we had four months of good weather, before winter set in, to get the land ready for spring crops. We shall have no cause to complain of our "short seasons" when we find out how to avail ourselves of the long and delightful period between our early harvest and late winter. We have, agriculturally, the best climate in the world—if we only use it properly.—*J. Harris, in American Agriculturist.*

Litharge mixed with lard is recommended as a cure for chilblains.

Improved Farm Machines.

Gov. Brown, senior editor of the New England Farmer, writes to that paper from Addison Co., Vermont, as follows:

On every farm I have visited there has been one mowing machine, and in several instances two. To this is always added a horse rake, and occasionally a tedder. If a man delves with his hands from day to day, in addition to the mental labor required to superintend his affairs, he must sooner or later yield to the strain upon his powers. It will affect his temperament as well as his health, until his whole nature seems to have changed. It is no longer a bright and cheerful world to him, and moral, intellectual and physical progress are out of the question, in that degree in which they ought to proceed. What cotton and cotton manufactories have done for the civilization of the world, farm implements and machinery are still doing. Both are civilizers.

It is a world of grass in all this region. I have witnessed nothing like it before. The crop in Addison county is larger than it has been in any former season. The lands are clay and admirably adapted to this crop. I have visited fields that were *never ploughed*, have been mowed more than fifty years in succession and never manured, where they were taking off, before my eyes, from a ton and a half to two tons to the acre of excellent timothy and red top hay! Scarcely one of the farmers whom I have visited will cut less than seventy-five tons of hay, and from that all the way up to two hundred tons. In one instance where some old hay was left, the proprietor stated that when all his grass was cut he should have fully two hundred and fifty tons in all.

Before the introduction of the machinery now in use, the labor of haying required the aid of an army of Frenchmen from Canada to assist in securing it. Nearly every family had a half a dozen or more, and the effect upon the subsistence department of the region was something like that of the descent of the untold millions of grasshoppers upon it in 1860. They swept everything eatable before them, and the Frenchmen do pretty much the same. By the aid of labor-saving machines this army is reduced to about one-tenth of its former number, and has altered the condition of the work in-doors essentially as well as out.

To the valuable machines which I have named, there has recently been added another which I have taken especial pains to see in operation: it is for loading the hay by horse power, after it is sufficiently dry and thrown into winrows. I have seen it in use at three different times, and on uneven as well as even ground, and everywhere it did the work quickly and well. At one of my visits to see it, the first load was put on in eight minutes, the second in seven and a half minutes and the third in seven minutes. This was done by the steady usual working of the machine, and without any effort to do the work in a short time. The bystanders estimated the loads at 1500 pounds each; the wagon, being a short one, would not conveniently take any more. The men using it stated that on a previous occasion they loaded and unloaded eighteen loads in six and a half hours, all the loads but the last one being placed upon stacks in the field.

The loader is attached to the hind end of the wagon; stands perpendicularly; is eight feet long and four feet wide. It has eight sole leather belts, each two inches wide, which pass over rollers at the top and a cylinder at the bottom. There are fifteen small iron spurs in each of these belts, which pick up the hay as the team straddling the winrow, passes along, carrying it up and rattling it over upon the wagon. The whole of this weighs 175 pounds. It can be attached or removed in less than five minutes and can be applied to any wagon. It makes no noise while being operated, adapts itself to uneven surfaces, and is exceedingly simple in every part of its construction.

I had always imagined the hay loaders that I had read about as being heavy and cumbersome contrivances, hanging on to one side of the wagon, and requiring some human power to feed an endless apron that was to carry the hay along to the cart. When I saw this small and light contrivance, noiselessly picking up the hay and conveying it to the wagon, I came to the conclusion that a device had been reached which would complete the circle of machines to be used in securing the most important of all our crops—the hay harvest. In the West, and wherever a large amount of hay is to be secured, this machine must take rank with the mower, horse rake, tedder and horse pitchfork.

There is a very singular looking mowing

machine in this region, invented and built by a Mr. Newell. It has fewer pieces than any other which I have seen. It has but two wheels, I think, each about eight inches in diameter. These are enclosed in a cast iron cone, and just far enough apart to meet gears attached to the shaft which gives motion to the knives. I saw it in operation, but not enough to form an opinion of its merits.

Breeding Sheep for Mutton.

The fine wool growers of France are laboring under even greater difficulty in respect to the low price of their product than are those of this country. The inspector-general of agriculture at the late exhibition of the Nancy Agricultural Society, reviewed the situation in his address, and ventured some advice that may not be inappropriate in many localities in this country. M. Lembezat said:

"You know perfectly well, gentlemen, that for a long time past the principal profit which cultivators have sought in breeding sheep has been the fleece. At one period, when the use of cotton was little known—first in consequence of its dearness, secondly because cotton stuffs were considered less healthy, and thirdly because the custom of wearing woolen clothes was an old one—the production of wool was a very advantageous operation. At the time of the continent blockade, considerable fortunes were made in the Beauce, in the Brie, the Picardy, and in the Chatillonnaise; and for a long time afterwards cultivators made money with their sheep, either from their wool or by the sale of reproducers.—But a very prosperous industry which supplied Europe first and subsequently several parts of the new world, has spread in profusion the Merino breed, which, originating in Spain, had been improved in France, in a remarkable manner from the double point of view of weight of fleece and quality of wool. There is a limit to everything, gentlemen, and France, after having obtained considerable profits from the Merino breed, which it sold at very high prices, could not entertain the hope of keeping indefinitely a monopoly of wool and reproducers. This is just what has happened. New economic conditions have introduced certain changes into international relations at the same time that the mode and processes of manufacture have changed. All these circumstances combined have produced the present state of things. The present situation had been foreseen. Twenty years since M. Yoart, now in retirement, but then Inspector-General of the sheep-folds and veterinary schools of the state, said to sheep-breeders: 'Change your sheep breeds into butchers' animals; become producers of meat, for wool will fall to prices which you do not suspect or anticipate.' There was no question at this time, gentlemen, as to a treaty of commerce; but, nevertheless, M. Yoart, with his great experience, was perfectly right, and exactly predicted what has happened. The advice which was given years ago, we repeat, and we urge, with all our strength, intelligent cultivators to enter upon the path indicated by M. Yoart. We may add that it is more economical to produce meat than wool, and it is easy to give a proof of this fact. All those who have reared sheep know that with a special and suitable system of feeding, we can, according to the breeds dealt with, obtain in a year animals weighing 130 lbs. to 180 lbs., and often even more. What, under these circumstances, is the ratio of the fleece to the total weight? In no case can this ratio be more than 10 per cent., and you will see that wool must be worth ten times as much as meat to render it as economical to produce meat as to produce wool. I would say to you, gentlemen of the east of France, who have many districts in which sheep prosper, address yourselves frankly to the object which I indicate to you, and you will find that the maintenance of a flock of sheep may be an essentially profitable operation."—*Prairie Farmer.*

PHILOSOPHY OF THE PIG-STY.—No animals deteriorate faster than swine. The trough is a great element in the character of a hog; he is amazingly like a dandy. To keep him in first-rate trim, he soon eats his head off; yet, if he has to hunt his food, even with the slightest effort, he soon becomes too enterprising to be a fine specimen. As soon as a pig becomes enterprizing he ceases to be a "Chester County White." Dame nature soon fits him to this new order of things; his nose lengthens, the disposition to use it increases, his legs grow longer, his sides flatten, his hams lose their plumpness, and in one or two generations he is a match in a race for any ordinary dog. If you want to keep up the breed of good hogs, keep no more than you can keep so lazy that they will not grunt.—*Southern Planter.*

Good Butter.

Line upon line and precept upon precept, is needed for many persons who undertake to make butter. Here is what a correspondent of the *Western Rural* says:

Mrs. B. never gets less than five cents above the market price, and this is her method:

Perfect cleanliness in every department in the first place. Plenty of air for the milk and cream, but as little as possible for the butter, in the second condition. She washes the sour milk off her pans with cold water, hot would "set" it, then with lye and warm water—here is a saving of soap—proceeds to wash and sweeten them. Then comes a great dish pan of boiling water, so hot that each pan quickly dries on finding the air. A clean towel makes the drying sure, when they are placed in the sun to air, but not for long to catch the dust the wind will bring. After a few minutes they are carried, not to the cellar, where the least damp is sure to settle on a warm dry tin, but to the pantry. Care in so small a matter will keep tin pans bright for years without scouring, which must of course wear off the tinning. When the milk is strained it receives plenty of air and light. It is skimmed immediately at the right time; that is when all the cream is on the top, or when it is ripe. After maturity comes decay, and if a particle of bitter cream finds its way to the churn, your butter is tainted. Then when the cream is in the cream-crock, she never forgets to stir it night and morning after skimming milk, and here is another point Mrs. B. considers of much importance. After skimming enough for a churning, it is allowed to stand some hours before churning, that the mass may be of the same acidity and temperature. The churn is scalded and cooled with water. The butter when churned will not stick to it when treated thus; for the same reason the bowl goes through the same process. The cream is then tested; it must feel cool to the finger (not cold) in winter, but in summer it must be decidedly cold. A little practice will enable one to be quite sure, and the churning need not exceed ten minutes. If it be too cold, heat will be attained by an extra amount of friction. This has the same effect as overworking the butter. It renders it salvey.

Some say do not wash your butter, it takes out all the sweetness, but if any one can make better butter than Mrs. B., or butter that will keep longer, I will believe it, and she washes all the milk out of hers, salting it immediately after. She places it in the cellar on the bottom for one hour, when it receives its first manipulation.

Mrs. B. makes every stroke of her ladle tell; the object being to press out every particle of water with as little working as possible. It rests another hour; is again worked, then again after a third rest, if need be. Here you see an improvement. The usual way is to let the butter remain twelve hours between each working; the butter being ripe, decay has here a fine chance to work its will. Light and air, so requisite to attain the product, are, when attained, its enemies, so the very minute the water is all squeezed out of it, Mrs. B. hastens to hide it under two inches of the strongest brine, in a crock covered up from the light and air, while her little pats are wrapped up separately in dainty hemmed cloths, placed in the ice-house; they too, being placed in a crock and darkened. But Mrs. B. has everything handy; the coldest of pure water, the well being in the cellar; the cellar finished so as to be easily kept clean, and that crowning blessing, an ice-house.

Fattening Hogs.

A hog will thrive according to the food you give it. It will make pork according to the quality of the food. Thus corn is better than other grain; old corn better than new corn. Beechnuts will make a soft, oily pork; the acorn a bitter, it is said; and we know that it is a matter of world-wide notoriety that offal spoils pork.

How is it then with the pen, reeking constantly with odors—the hog wallowing in its own filth?

Here is an aspect that we overlook. There is always more or less of the excretia of the animal taken with its food. Sometimes—and this we have often seen—the trough is watered and lined with it, the animal urinating in the trough.

Now all this has a decided effect upon the pork, which is from necessity, more or less tainted by it. We are not eating good pork. We are not keeping it well; such pork will not keep. The difficulty is laid to the putting down, or to some other cause, when it is in a great measure, and sometimes wholly, owing to the manufacture; the putrescent matter is absorbed in the feeding.

To prevent all this, or at least in a great

measure, so as to get a fair, and what we may deem a good quality of pork, there must be cleanliness. And the hog, though a hog, has still some of the original politeness left which no doubt destinguished him ere he had taken to the ditch. He will select a clean, dry place; and it is this trait that must be taken advantage of. He must be permitted to have a place where he can be clean and dry, but also cool, or he will wallow. A separate apartment to sleep or rest in is the surest way. He will seldom foul his sleeping apartment, particularly if straw is put in and changed as often as required. This he will have as his parlor. And it is your business to see that the other compartment is kept free from odors and moisture; this by using absorbents. Dried muck is a common resort. Dried saw-dust is also good; and even ground—anything that will take up odors and moisture. Use ground that is dry, or dust from the road. Have a pile ready to use, and keep using as occasion requires. If there is but one compartment, treated in this way, it can be kept odorless and dry, and piggy will appreciate it, and aid in the matter by keeping his corner and himself clean.

Here you will be making manure worth three times the amount of its first worth. You will have a great nuisance abated, the hog-pen (in its odor), and you will have a clean pig worth looking at, and pork to match; this without fail; only feed proper food.

There will be little difficulty about keeping your pork now; it will almost keep itself, and it will be sweet and solid, and healthy.—*Utica Herald.*

Deodorizers for Stables.

There are few men that do not admire the horse, and look upon him in a light very different from that in which other domestic animals are viewed. Woman is no less an admirer of this incomparable creature than man. The stable of the horse is or ought to be healthy and comfortable, and many that we know of are really admirable. Some of our millionaires have gone to very great expense to house this favorite animal, and all that science knows has been called forth to aid in making stables all that they should be. Yet, with all this desire to be careful of the horse, there is ever one drawback, one objectionable thing in even the choice stables of the royalty itself, let alone republican munificence, and that is the effluvia ever present in and seemingly inseparable from the stable, however cared for. On account of this most unpleasant smell, ladies very seldom pay a visit to the stall of their most petted animal.

It does seem extraordinary that science has hitherto offered no palliative of this ancient evil. The boon seems to be reserved for our day, and we hail with hope in its efficacy the following suggestions, namely, sawdust mixed with diluted sulphuric acid; it is one of the best materials for fixing the ammonia which is given off in stables. The following experiments have been put on record: A shallow basin, in which sawdust diluted with sulphuric acid was spread, and hung up in a stable; the sawdust was neutralized by the ammonia in the air of the stable, and a considerable quantity of the sulphate of ammonia was formed in this manner. For this reason, sawdust mixed with sulphuric acid is recommended as a means of keeping stables sweet and wholesome. This acid should be diluted with forty times its bulk of water before it is applied to the sawdust. Just enough should be applied to make the sawdust feel damp. On account of its porosity, sawdust retains the acid very perfectly, and presents a large surface for the absorption of the ammonia.—*Architectural Review, and American Builder's Journal.*

AGRICULTURE.—Study is essential to the highest success of agriculture, and farming ought to rank among the learned professions as a field of intellectual labor and enjoyment. It is beautifully adapted to the wants of man. The general laws of vegetable growth are so simple that they can be understood by men in a low state of civilization when the wants are few; and they are also so complicated and nicely balanced in their higher relations that they require all the study, wisdom and skill of the highest civilized society, that the fruits of the earth may satisfy, in their quantity and quality, the demands of such a state of society. We find, then, in the very beginning, plants adapted to man as an intellectual and physical being. By their unlimited power of improvement they are fitted to call out forever his mental activity, and by this very power of improvement they are fitted to gratify his increasing desires as he advances in civilization.—*Prof. Chadbourne of Williams' College.*

Suggestions for Starting a Dairy.

Mr. X. A. Willard, who is considered the best authority in the Dairy Region of Western New York on general dairy matters, answers an inquirer who is new to the business, on some important points, as we find in the *Western Rural*, one of our best agricultural journals:

There is great difference in opinion among dairymen as to the number of cows that may be profitably kept in one herd. We have known herds as large as 150 animals, but the losses from accident and disease were larger in proportion than in herds of smaller size. We have dairy farmers in Herkimer Co., N. Y., who own a thousand or more acres, and who rent their lands after stocking them. They do not find large herds so profitable in proportion, as smaller or medium sized herds. From fifty to sixty cows are considered the best size for profit.

Hence the usual practice here is to divide up the land into farms that will each carry that number of cows. When the owner of a dairy farm has it under immediate control and is constantly among his stock, giving his attention to details in management, large herds numbering a hundred animals are successfully kept. It is different with milch cows than with stock employed for other purposes. They need close attention. In driving large herds twice a day to the stable to be milked, some of the weaker animals are apt to get injured by master cows, and as it is important that every animal be examined minutely every day to see that she is in good health, that her udder and teats are all right, that no accident has befallen her, it will be seen that very large herds become unwieldy, and with great liability to heavy losses. We have known in some instances the losses of stock, from mismanagement in a single year, to nearly eat up the entire receipts from the herd for that year.

Seven hundred acres of good dairy lands will probably carry 150 cows. If it was desirable to keep that number under the management of one person, we should advise that they be separated into herds of 50 animals—each herd to be kept in pastures separated from the others, and to be milked and cared for in separate stables. Managed in this way there need be no great difficulty, with proper attention, in having them do well. But we should by no means approve of putting the animals all together in one herd.

Good milkers will milk about ten or twelve cows in an hour, on an average.

The cost of an outfit for a factory will depend upon the number of cows from which milk is to be delivered. For 150 cows the expense need not be large.

Vats for holding the milk and manufacturing the cheese may be had with heaters attached. A very convenient size is that holding about six hundred gallons and the cost will be from $200 to $250. This will include smoke pipe, elbow, whey strainer, syphon, &c. These vats are of various sizes and can be had of the right size for 150 to 200 cows, so that for a small factory only one need be purchased. If the milk of more cows should be at any time added, another vat can be bought and set up. Ralph & Co., or Chas. Millar, manufacture a convenient and good article in this line. Probably about $150 more will be sufficient for presses, hoops, weighing can and other fixtures.

If a steam boiler is to be employed for heating, of course the expense of fixtures will be larger than we have named, but the arrangement suggested is quite as convenient and not only is a saving in first cost but there will be less expense for fuel.

The allowance commonly made at factories is ten pounds of milk for one of cured cheese, that is cheese ready for market. Some factories make a little better average than this, but in estimating it is well to use safe figures.

Cheese manufacturers can be employed at various prices according to their skill in manufacturing, size of factory, &c. In New York, the best get from $1,000 to $1,200 or more, for the season. Probably a good dairy maid could be got to manage a small factory of 150 cows for $10 or $12 per week and board.

A skillful manufacturer should always be obtained, for, even at a high price, they are cheaper than second rate hands. A poor manufacturer is the most expensive thing about a cheese factory, as the loss on sales of cheese will soon demonstrate.

When cheese is made by the pound, the usual price is seventy-five cents per hundred pounds. In large factories the price is sometimes a little less and in small factories a little more.

Where cheese is made by the pound, the manufacturer is to all expense for labor employed about the factory in manufacturing and care of cheese. In this case all materials

needed, such as salt, annotto, bandages, rennets, &c., are furnished by the proprietor of the factory or by patrons. X. A. WILLARD.

Young Stock vs. Old Stock.

Not long ago in our monthly Notes and Suggestions we advised farmers not to keep old horses, for they are very unprofitable stock, and this suggestion was objected to by one of our correspondents, who stated that getting rid of an old horse which had been useful and valuable in his day, looked like an act of ingratitude and inhumanity, or something of that kind. We agree with our correspondent in his opinion that an old horse deserves to be well treated when he is no longer fit for the labors of the field, and on this account it is better that he should fall into the hands of some benevolent person who can afford to take care of him, than to remain on the farm to be in the way in place of being useful. A great many farmers have enough to do to support their families, together with horses and other stock that cannot be dispensed with. If a farmer can afford to keep an old, useless horse, on account of his former services, by all means let him do so, but as a general thing the practice of keeping horses until they have become old and depreciated in value should be avoided.

Old working-oxen are bad enough, but there is a better chance of getting rid of them without losing money, than old horses, for before they fail in the yoke they can be put into the stall and made up for the butcher. Nevertheless there are many objections to keeping oxen until they are nearly past their labor—they consume as much food and do less work than animals in their prime, are not so easily fattened, and do not make as good beef as younger animals. It need scarcely be said that old milch cows are not so desirable for the dairy, for it is well known that they do not produce as good milk, or as much of it, as animals in their prime. Their calves are small and unthrifty, and the older they are, the more difficult it is to fatten them. Their beef is also inferior to that produced by younger stock. It is well known that the best quality of beef is produced by three or four years old barren heifers.

Light fleeces at shearing time, and dead lambs in spring, ought to be sufficient to warn the farmers against keeping o'd breeding ewes, yet some are to be found who disregard these silent admonitions and go on in the old track until the animals become perfectly worn out. The wool of old sheep is much easier torn off by brush or briers than that of young ones, and from the decay of their teeth they are prevented from feeding to advantage—they cannot pick up sufficient food in the pasture, and require succulent provender to put them into good condition. Every sheep-breeder who has obtained any celebrity for producing good stock makes it a point to keep no animals for breeding purposes but such as are of superior quality and in their prime.

The same results are obtained in the breeding of swine—old animals are unfit for breeding purposes. Successful breeders never keep sows or boars that are past their prime; they manage to get rid of such stock before they had suffered pecuniary losses by keeping them, and fill their places with animals of the best breeds and of the most suitable age.—Those which are too young are not desirable for breeding, and those which are too old are entirely unfit for the purpose. Unsuitableness in age will neutralize many good qualities. Well managed hogs of the best breeds, from nine to twelve months, will weigh heavier than neglected ones of inferior breeds at twice that age. There is no occasion for keeping hogs until they are one and-a-half or two years old, when by proper management in the breeding, feeding and caring, they may be sold with profit at the age of one year or less. —*Western Rural.*

MARINE VEGETATION.—In the Atlantic ocean a little to the west of the Azores, there exists a space seven times larger than all Germany, according to Humboldt, completely covered with a dense mass of marine vegetation. M. Jules Lavimere has proposed to the Societie d'Agriculture to make these floating meadows, as they are called by Aviedo, subservient to the purposes of agriculture. His suggestion is that the ships occupied during the summer in cod fishing should in other seasons be employed in conveying this abundant manure to the Azores, where an entrepot could be established, the weeds pressed and dried, and the mineral salts they contain extracted. He calculates that these floating meadows produce annually sufficient vegetable matter to manure 900,000,000 hectares, a hectare being about an acre and a half.

Small Farms vs. Large Farms.

It has been quite fashionable in late years to cry down large farms, and recommend that a more thorough system of culture be applied over a much smaller surface—that is to adopt small farms. This is correct as far as it goes; but to recommend small farms for fruit culture and gardening, of but three to ten acres, as amply sufficient to occupy the time and energies of the cultivator, and yielding an ample profit, is not always a judicious policy. Were we asked by an amateur about purchasing a small farm, our candid advice as to its successful management, we would reply:

1st. Do not buy too small a farm, nor plant it all out in fruits.

2d. Leave enough space to grow other crops for home support or sale.

3d. Allow sufficient room for the production of grass or hay, to produce an abundance of manure.

Money is almost always illy spent in purchasing fertilizing material from other sources than the home farm. It should be as much the calculation of a small farmer to produce all the manure he needs on his own place as to endeavor to cultivate the land well. Trust to home resources is a good motto for all.

A farm of ten acres is not enough to enjoy life as favorably, as economically, or to conduct as judiciously as one ought.

A certain space of every farm should be devoted to fruits, then a certain space to garden truck, which will yield an income the first year; then another space should be devoted to raising crops for home support, and, lastly, another space in grass, which is to furnish, through the cattle who eat it, the manure which is to fertilize the whole. It is impossible to make small farms pay unless manured well.

We hold that no man should go off his own farm to buy manure, but should always provide for an abundance on his own place; no one ought to complain if he has more than enough. The stumbling block in the way of the success of too many small farmers is, that they trust too much to the natural fertility of their soil, and do not calculate enough on proper and abundant supplies of manure.

They find out, sooner or later, that a small farm, to pay well, needs fine culture, and that depends more than all things else on a big manure heap.

Given that, then we believe in farms of ten acres, four acres, or even ten rods; without that, we would not give a fig for as fine land as lies within a thousand miles of the great city.

Small farms are correct in theory, provided they are treated in the best manner; but large farms can always be made to pay, because they possess conveniences not enjoyed by the other.

In fruit-culture it is impossible to crop the ground year after year without giving back to it some appropriate nourishment, and bountiful crops will come in proportion to the amount applied.—*Deitz's Farm Journal.*

Making Home Pleasant.

Charles D. Copeland, of Lima, N. Y., writes to the Evangelist a sensible article on the beautifying of the homestead:

Housekeepers should never rest until home, hallowed by piety and virtue, is made the abode of contentment and delight; which husbands will enjoy as a sanctuary of rest, and children prefer as a place of recreation, rather than seek enjoyment in company that is vicious and ruinous. To this end, among other things, a fine flower-garden is an indispensable appendage. In forming one,

1. Shape the beds tastefully.

2. Have the soil made rich and mellow.

3. Procure plants and seeds, the flowers of which are showy, and that are a long time in a blossoming stage—such as perpetual hybrid roses and altheas for shrubs; and for annuals, the aster, anterrhinum, balsam, dianthus, pansy, phlox, petunia, verbena, portulaca, larkspur, salpiglossis, zinnia, and everlasting flowers.

4. Sow the seeds either under glass early for transplanting or in open beds, about the time of planting for early garden sauce.

5. Cover the seeds, especially those that are small, not more than one-eighth of an inch deep, sifting on very fine earth.

6. Keep the ground moist, but not soaking wet, by sprinkling on water just before evening.

7. Transplant a part when they come up thick. They blossom earlier and more perfectly when standing thin and growing stocky.

8. Select a few of the best plants to ripen seed, which should be gathered early for the next year.

9. When the first fine show of flowers is past, cut back the plants, relieving from the

top about one-third the length, and most of the varieties will throw out new branches, yielding a second crop of flowers.

10. Let the children of the family take part in their cultivation, and it will improve their health, refine their sensibilities, and create within them a love for home and home enjoyments.

In procuring fruit-plants, a few only, and those of the best varieties, some of which are very early and others late in fruiting, should be sought for, namely, such as the cherry, Victoria and white grape currants; the Philadelphia, Doolittle, Davison's, Thornless and Mammoth Cluster raspberries, for summer fruiting; and for autumn, the Catawissa and Lum's Everbearing; for blackberries, the Kittatinny, Early Wilson and Missouri Mammoth; for quinces, the true orange; and for strawberries, the Wilson's Albany is the best adapted to all localities so far as tested.

At a small expense, these may be grown, and putting up the fruit in cans, jellies, jams, and preserves, they supply in their fresh and preserved state a luxury the year round, both for the table and sick-room. Happy the housekeeper that has a garden of fruits, a yard of flowers, a husband that loves his wife, and a surrounding family that looks to her as the centre of domestic bliss.

Poultry-House at Ogden Farm.

As there is an immense demand among the summer visitors at Newport for early spring chickens—these sometimes selling in June for $2.50 a pair—it has been attempted at Ogden Farm to perfect an arrangement by which early laying and early brooding may be secured. For this purpose, the poultry-house has been built on the south side of a five-foot stone wall. The width of the house at the top is 8 feet, and at the bottom 10 feet. The plate at the eaves of the roof lies directly upon the wall, while its front edge is 3 feet higher, or 8 feet from the ground. The front is built with a batter, or slope, of two feet, and the whole front, for six feet down from the roof, is made of glass, there being six sashes, 4 feet wide and six feet long, having only longitudinal bars, between which the glass is set, as it is in ordinary green-house sashes. A row of "secret" nests runs the whole length of the house, immediately under the windows, the sun falling directly upon the board covering of these nests, and adding somewhat to their warmth. The stone wall has been pointed with a cement and lime mortar, both on the inside of the house and on its north side, a little beyond the end of the house, each way. The roof and ends are covered with shingles, a board sheeting being nailed to joists, on the inside of which, laths, set at intervals of six or eight inches, support a layer of sea-weed, which occupies a space equal to the thickness of the joists. The bottom of the house is banked all around with sea-weed or manure, and it would be difficult to conceive of a warmer and sunnier shelter than the whole arrangement affords. The perches, which are four in number, run lengthwise of the house, standing on the same level, about two feet above the ground. They are simply laid in sockets, and can be removed at any time for cleansing, and for the spading up or raking of the soft earth below, with which it is proposed to mix the droppings once or twice a week. The posts between the sashes support, on their inner side, a light, galvanized, iron netting, which covers the whole opening, serving to keep the fowls from flying against the glass, and for keeping them inside the house in summer, when the sashes are entirely removed. The whole cost of the house, built in the best manner, has been less than $75, and it is large enough to accommodate fifty laying hens, and their early spring progeny. It is impossible yet to speak of the results of this experiment, but, as it involves no new principle, and depends only upon the perfection of methods which have already been tried, there is no reason for supposing that its success will not be complete. Certainly it will not add to the farm expenses in the items of interest, insurance, and wear and tear, more than $7.50 per annum, equal to fifteen dozen eggs at the average February prices.—*American Agriculturist.*

A correspondent of the American Agriculturist writes that the name of a well known variety of potatoes, called by several names, is Neshannock. He says the potato originated sixty years since, with Mr. John Gilkey, who lived on Neshannock creek, five miles from its junction with Shenango river, in New Castle Co., Pa. The name Mercer, as applied to them, comes from the county of that name in which they were grown.

Vegetable Physiology.

Writing on the backward state of Vegetable Physiology, the Gardeners' Chronicle says:

We have often had occasion to comment on the backward state of vegetable physiology in this country. Other branches of botanical science have their representatives here, but with few exceptions, there is scarcely a botanist who has turned his attention to this department. Much as Lindley enriched other departments with his own personal researches—greatly as he aided horticulture by the application of the principles of vegetable physiology, as known at the time at which he wrote, to the details of practical routine, his reputation in the future, will assuredly not rest on his personal contributions made to vegetable physiology in the restricted sense in which we have used the term.

The fact is that, so far as its application to practice goes, vegetable physiology is in much the same state as therapeutics are to medicine. The foremost physicians now-a-days have acquired a marvelous insight into the symptoms and consequences of diseased action. They are enabled to ascertain the condition of a sick man—to predict the probable course of his malady—to say with something next to certainty what appearances will be presented after death. They know, too, what will probably be the immediate effect of the drugs they administer. But when it comes to the question how these drugs produce their peculiar effects, or as to what will be the effect, on the disease, of their prolonged administration, they are for the most part utterly at a loss. They can do much to alleviate, more to prevent disease, but to control it, in the sense in which an excellent practical gardener, the other day, used the term, is, in the majority of instances, quite beyond their power.

The application of what is known in vegetable physiology to practical horticulture, is in an equally unsatisfactory condition. Plants are analyzed, their composition is ascertained, water is tested, the nature of soils and manures accurately determined; and what then? We have got results valuable enough in a chemical point of view, it is true, but we want something beyond this. We have the plant itself as a machine in action to consider. Let us explain our meaning: An excellent gardener asserts that lime is as injurious to grape vines as sand is beneficial. Assuming the fact to be as stated, will any mere chemical analysis of the dead plant, (the process of analysis, of course, implies the death of the plant), any investigation of the soil, give the reason for this fact? It may do so, but we venture to think that the probability is that it will not; and this because the experience of other practitioners, under different circumstances, is different from that of Mr. Cramb.

Certainly no one who has seen a French or German vineyard would infer that lime was injurious to the vine. We turn to another subject. We are told by another excellent gardener, whose opinion is valued in the highest degree among his colleagues—that the immediate effect of pruning is the encouragement of a greater supply of sap to flow towards the parts that are left. The results that follow such an operation are such as to render this explanation plausible, but is it true? We do not say that it is not, but we ask by whom, and how, this alleged greater flow of sap to an amputated branch, has been tested and guaged? Which sap is it that flows to the wounded part? Is it crude sap just pumped up from the roots? Is it elaborated sap? If so, where does it come from? If you mutilate the top, does not the root suffer in proportion?

Till these, and a score of similar questions, are satisfactorily answered, we must consider such statements in the light of plausible hypothesis, and nothing more. One class of observers see results and have to deal with them, seeing them daily they are naturally inclined to guess at causes for these results, without stopping to inquire whether or not they are corrrct in their surmises. Another class of observers make it their business to hunt after causes, and often miss their mark because they are imperfectly acquainted with results which lie so close under their eyes that they fail to see them.

Wheat in Georgia.—At a wheat fair or exhibition held at Athens, Ga., last week, wheat was shown which yielded from thirty-five and four-sixtieth to forty-six and five-sixtieth bushels to the acre. The Georgia people are turning their attention to encouraging and promoting the growth of the cereals, and these exhibitions, at which one farmer comes in competition with another, for a premium on the best wheat and the most prolific yield to the acre, is one of the plans adopted to encourage the raising of good crops.

The American Farmer.

Baltimore, October 1, 1869.

TERMS OF THE AMERICAN FARMER.

SUBSCRIPTION TWO DOLLARS PER ANNUM.

RATES OF ADVERTISING:

Ten lines of small type constitute a square.

	1 Mo.	3 Mo.	6 Mo.	1 Year.
One Square.....	$2.00	$5.00	$8.50	$15.00
Half Column.....	8.50	20.00	35.00	60.00
Half Page.....	15.00	35 00	60.00	100.00
One Page.....	25.00	60.00	100.00	200.00

PUBLISHED BY

WORTHINGTON & LEWIS.

New Office, 4 South Street,

Near Baltimore Street,

BALTIMORE.

State Agricultural and Mechanical Association.

The first Annual Exhibition of this Association will take place, as our readers are aware, on the 26th of this month, and continue four days. The liberal premium list put forth by the Society, about ten thousand dollars, will have the effect, we cannot doubt, of bringing a large attendance of exhibitors, and spirited competition.

Vigorous and well directed efforts are being made by the Committee of Arrangements in making the necessary preparation of the grounds, and improving facilities of approach, and we look for a very large attendance of visitors, and the most successful Show ever had in Maryland. Great liberality has been exhibited by citizens of Baltimore in seconding the large donations of the State and city. About forty thousand dollars has been added by them to twenty-five thousand contributed by the Legislature, and the same by the City Councils, making about ninety thousand dollars entrusted to the Society. The valuable grounds and necessary buildings of the best character are the property of the Society, and ought to ensure its permanency and usefulness.

☞C. H. Walker, Esq., Secretary of the State Board of Agriculture of Nebraska, favors us with complimentary tickets to the State Fair, and very kindly adds, "we would be pleased to entertain you during the show."

Management of Farm Manures.

Many of our readers will remember, doubtless, what was known many years ago as the "Bommer method" of manufacturing manure, and some of them, perhaps, paid ten dollars for a little pamphlet describing this method, with the privilege of using it; and if they read the pamphlet, never availed themselves of the privilege. It was a patented method, which no one was at liberty to use without buying the pamphlet, but was advertised as of the greatest value to the farming community. As long as it was veiled by the patentee under a cover of ten dollars for the little book, there was interest enlisted which fell off sadly when the elephant was seen to be so much like other elephants, and many, no doubt, who had expected "some great thing," threw the book aside in disgust.—Nevertheless the Bommer method is in itself a good thing to those who must, or will, make composts, and we reproduce on another page from the Southern Cultivator, an article which describes it. The Bommer book, too, has been lately republished by Orange Judd & Co., New York, and is sold at the moderate price of 25 cents.

We copy also a good article on the subject of farm manure management, from the *Working Farmer*, and the two together will present this important topic in a very full manner.

Whether farm-yard manures should be composted at all, beyond what results from throwing together the manure and the litter of the yards, will depend much upon circumstances. Many suppose that the easiest and readiest method, as it takes all the material and deposits it upon the ground to be manured, answers every end, while others think that substances which would have no value alone, are available as fertilizing matter after passing through the compost heap. On many cotton plantations, one load of stable manure composted with two of naked earth, is claimed to be of equal value with three loads of the manure uncomposted. There are many crops, too, that need rotted manure, and for all such it is economy to prepare the farm manure by composting it.

Illustrated Descriptive Catalogue of *Grape Vines, Small Fruit*, and *Seed Potatoes*—Bushberg Vineyards and Orchards, Jefferson Co., Mo. Isadore Bush & Son.

Suggestions for the Times.

A friend has favored us with the copy of an address delivered by Col. A. L. Taveau, President of the Chaptico Farmer's Club of St. Mary's county. We are obliged by the usual length of such addresses, to forego the pleasure we should sometimes have in publishing them, and although this is an exception in that respect, we could not well, without an apparently invidious distinction, break in upon a rule.

There are some points of much interest, so well treated in this address, that we are tempted to make a brief abstract for the benefit of our readers.

The first topic is the great labor problem, and the first suggestion we note, is the necessity of farmers establishing among one another a better understanding, and observing certain laws of decorum and respect for one another, which would lead them to demand from servants seeking place written certificates from their previous employers as to their general deportment, and the cause of discharge from a previous employer.

The next suggestion is that the system of renting out lands to negroes is injurious, on the whole, to the community, because it sets up a class to be independent farmers, who should be laborers, and throws upon the families of land-holders during harvest-time, unaccustomed servile duties, while the servants are playing "lady housekeepers." It is claimed, too, that in renting, farmers to ensure the preservation of their own cultivated crops, should rent for labor instead of for money or share of crop.

The subject of immigration claims attention, and it is urged that the Club take advantage of the State Agency in Baltimore to get families who shall settle in sufficient numbers in the several localities, to afford one another society.

A very important suggestion is made as to the use of task work as practised on Southern plantations: "We all know, by experience, that men are *not* equal, either physically or morally, and the inferior hand ought not to receive the same pay as the superior. Let 'the laborer be *worthy* of his hire,' and by resorting to some system of task work, such as is practiced all over the South, a prime hand may be able to make more than he now gets, and the inferior hand will be reduced to his proper *status*, whereby both the farmer and laborer obtain full justice. In cradling, binding, fallowing and ploughing corn, we may pay so much per acre; in planting tobacco, so much per 1000 plants; in stripping, so much per 100 lbs., etc., thereby rendering our custom uniform and just."

The conclusion of the address is an eloquent appeal to farmers to lay aside all merely selfish considerations, and to stand shoulder to shoulder by each other in the complications and troubles with which they find themselves embarrassed, in generous and brotherly self-sacrifice.

Chinese Labour.

The question of Coolie labour is a somewhat vexed one, but is practically settled we think, by the determined and vigorous action of those upon whom the necessity for reliable labour is pressing so sorely.

Our friend and occasional correspondent, G. W. Gift, Esq., of Memphis, Tenn., has been commissioned to go to China to engage and bring in a large number of labourers, house servants, &c., and we have a letter to him from Commodore Maury, who speaks of the Chinese in the following terms:

"Chinese labour is much more intelligent, skillful, and effective than negro labor, and I consider the introduction of it under proper regulations, would be highly beneficial to the South.

"After Jamaica, Trinidad is the largest of the British West India Islands, and that it did not pine and dwindle as Jamaica has done, is, I am assured by residents there, chiefly owing to the introduction of Coolie labour.

"Kindly and properly treated, the Chinese are the most faithful creatures in the world. I have been in the country, and have paid some attention to their traits of character. As domestics and labourers, gardeners, and cultivators of the soil generally, they are not surpassed by any other people. From the first that arrive I should like to have a cook and two house servants. Please let me know how to proceed in order to get good ones."

FREDERICK COUNTY AGRICULTURAL SOCIETY.—We are indebted to the gentlemanly officers of this Society for complimentary tickets, and for their List of Premiums for the Ninth Annual Fair of the Society, to be held at Frederick City, Md., beginning on Tuesday, 12th of October, and continuing four days.

Provision for Cattle on an English and on an American Farm.

The English farmer measures the improvement of his land by the number of cattle he can keep, while the American agriculturist finds his stock of cattle the surest means of impoverishment. With all the talk of bad ploughing and exhausting crops in connection with our worn down fields, we doubt if either one or the other has had a more baneful effect in this direction than the common American practice of increasing, year by year, stocks of cattle, sheep and hogs, which tread and bite and root out the life of the grass fields, and make impossible that accumulation of humus in the soil which is the first necessity of fertility. A large stock of cattle here is thought by observing men to be a pretty sure sign of unthrifty management. It is understood to mean that the farmer having dug all he can get out of his ground by poor cultivation, is turning in his half-starved herds to gather up the fragments, lest something be lost. The grain field from harvest to winter, and what should be the aftermath of a hay field, are given over to the stock of gleaners. What is in this way saved, is often harvested the following spring in a crop of murrain hides.

Yet the English farmer makes from his cattle a double profit. The profit of a valuable branch of husbandry and the profit that he considers of more worth than that, the sure improvement of his land. The difference is in the management. The Englishman makes beef a specific object of his care, and makes specific provision for it. He provides rich old pasture ground of sod a century old for summer feeding, and for winter, turnips and oil-cake, and such hay as is gathered from well-cared-for hay fields. There is money profit made of the beef, and land profit made of the manure that the beeves leave. The American makes no such provision of pasture ground or winter feed, and makes neither beef nor manure. Instead of a well thickened turf that in the softest weather no hoof can cut through, the crowns of young clover plants are submitted to the tread of cattle, and for winter rations, wherewith to lay up flesh and fat, there are straw and marsh grass and damaged corn fodder. A clover crop trodden to death, a grass field deprived of the covering of its fall growth, manure that has no strength to be washed out by the rains to which it is exposed, beef that has no value but for rigid observers of the lenten fast, or, as we have said before, a spring crop of murrain hides, are the legitimate products of the American system of cattle keeping.

That all this is radically wrong needs no argument. It is ruinous to the farm to be heavily stocked when there is no special preparation made for the maintenance of stock, and on an American grain farm this is the case. Here everything is directed, and properly enough, to the end in view, the making of corn, wheat, and other grains. The chief reliance for keeping up the land under exhausting treatment are the straw and corn stalks and the clover crop, with such grasses as to each one may seem to be necessary for his purpose. If a large stock of cattle be kept under the plea of consuming economically the waste of the grain crops, the profit will be illusive as far as the stock is concerned, because this provision is insufficient for profitable feeding, while it is ruin to the interests of the grain crop and to the land to have the clover and other grasses closely consumed.

It is very possible, indeed, to combine grain growing and stock feeding, and to make them a mutual support one to the other. It is here that our practice fails and needs decisive amendment. Let us have cattle indeed, and cattle enough on all our farms, not as gleaners of what we may call waste, but with ample provision made for their support in pasture and winter food. In this way we make first good cattle, then good manure from the cattle, and then good land with the manure, that will bring good crops of grain or anything else.

To provide pasturage for cattle there must be sod of some years' standing. It may be old pasture grounds, as we hear of in England, of a hundred years' standing, or of fifty years and more, as we know to be now in the counties of Loudoun, Fauquier and others in Virginia. Or it may be a long rotation with grain and grass, that allows the grass to stand long enough to make several crops of hay, and then turn it over to feeding purposes for as many years as may seem desirable. The closest feeding can scarcely damage such pastures, and the tread of the hoof can do no harm. The grass is of such quality as feeds the cattle up to the best condition of "grass-fed" stock, and makes them worth providing for in winter. Root crops, corn and hay can

all be profitably consumed by such animals, and the manure they leave is better than super-phosphate and guano, and the best that can be applied to grain-growing lands.

Except when cattle are so cared for and fed, not one should go upon a grain farm, but for the mere necessary purposes. The clover is the main reliance for preserving and improving wheat lands, and should on no account be grazed beyond the little treading that is useful in bringing down a full grown crop into contact with the surface. To have it close grazed after harvest and subservient to the common necessities of a stock of cattle, is most wasteful and ruinous.

So of other grass. If we would have crops of hay to continue, and the land where it is grown to keep in heart, stock must be excluded from the fall growth. It needs all the return it can get after harvest to compensate the exhaustion of the crop taken off. Even if manure is at hand, with which to dress the ground, there is damage done in the treading and close biting that is not sufficiently considered. When a crop of hay has been taken off, and another is to be taken the next season, keep the cattle away, and let all the after-growth lie as a top-dressing.

In confirmation of this opinion, we give what is said of the practice of a successful hay-grower in Western New York, as we find reported in the Utica Weekly Herald: "It is a practice with Mr. H. to always let his meadows grow up in the fall—not a hoof is permitted to touch the dense, rich grass. This has been his practice over a score of years. He was led to it by observing the grass of a small spot of land that was left for hay in a field of wheat, and was consequently left unpastured. This grew an immense crop, surpassing, by near half, the quantity of former grass. This convinced Mr. H. that there might be something in permitting meadows to protect themselves. He has followed the practice with eminent success ever since. No such meadows are anywhere found, especially of timothy. Not a hoof is permitted to touch the land, and but little manure is added. The grass growing up, dense and thick in the fall, seems to be sufficient. Here is something worth the attention of dairymen, without any expense save a little manure now and then, dressing with plaster—omitted now and then—and no other fertilizer. Mr. H. uniformly grows, year after year, heavy crops of timothy; there is no failure. A neighbor of ours, taking a hint from Mr. H., intends to dispose of his stock and make hay his principal crop, leaving his meadows to grow up in the fall, cut in good time, secure well, press his hay and dispose of it." He believes from the long success of Mr. H. that he will keep his haying land in high condition and make more clear profit by this course.

VIRGINIA STATE AGRICULTURAL SOCIETY.—We have received the List of Premiums of this Society, for the Annual Exhibition to be held at the Fair Grounds at Richmond, beginning November 2d, and continuing four days.

We heartily wish our Virginia friends the success which their enterprise and earnestness deserve, and hope this Fair will have a large number of Maryland exhibitors.

Late Sowing.

Wheat that is sown late generally results in total or partial failure. It may be safely said that four out of five crops sown in October, in this section, fail to produce paying results. The chances are heavily against all such crops.

The attempt to force them forward with fertilizers and manures has resulted only in producing a luxuriant growth, but failed to hasten the ripening process.

The best effect of manure on late crops was obtained when the manure had been applied the year before the wheat was sown. This, with well drained land, a rolling surface and a Southern exposure, will ripen wheat six or eight days earlier than when sown on a level soil without drainage and favorable exposure.

Our experience is general that when wheat is sown in good season, even when the soil is not rich and the cultivation indifferent, the crop is fair if the season be favorable. A few years ago, when the fly attacked the wheat in the fall, late sowing was adopted. The result was a greater loss than when damaged by the fly. The wheat ripened late and was attacked by rust and the wheat weevil.

Wheat should be sown in September, and never later than the 10th of October. Otherwise the wheat midge, and the rust which comes with hot, sultry weather, will be sure to destroy it.

Select healthy, early varieties of seed, drain and cultivate well, sow early, and the chances for a good crop are greatly increased.—*Dodd's Farm Journal.*

Book Table.

Pear Culture for Profit, by P. T. Quinn—published by the Tribune Association, Nassau street, New York. We understand that Mr. Quinn is a thoroughly experienced and successful pear grower, and he seems to have written this little hand-book because he had something to say. We can safely commend it to those who wish to profit in a very interesting department of fruit growing by the advice of one who has labored faithfully in it and tells plainly what he thinks worth their knowing.

The New Eclectic Magazine, which has now been in existence for three years, and with which has recently been incorporated *The Land We Love*, stands at the head of the list of Southern publications. At this period of the year, when persons are in the habit of choosing their periodicals for the winter, it is especially incumbent on the Southern public that they bestow a part at least of their patronage upon a periodical published in their interest, and which, the Southern and the Northern press both being the judges, is the peer of any magazine published in America—both in its literary standards and the quality and attractiveness of its typography.

The October number has two articles, "Classical Study," by Professor Gildersleeve, of the University of Va., and "Chivalrous Southrons," from the Southern Review, either of which it is well worth the cost of the number to read, but they make a very small portion of the varied and valuable matter it contains.

De Bow's Review.—The August number of this valuable Southern Monthly is an excellent one. Through Trade between St. Louis and Liverpool by way of New Orleans. Florida and New Orleans. The Policy of Usury Laws. British Honduras. "We, the People of the United States." The Cause and Issues of the Civil War. The South and the Northwest. The Cooley Controversy, are some of the very interesting topics ably discussed. Office De Bow's Review, 123 Gravier street, N. Orleans. Price $5, in advance.

The American Journal of Science and Arts.—We have the September issue of this standard journal, conducted by Profs. Silliman and Dana, New Haven. It is of special interest only to men of science. Price $6, in advance.

Annals of Bee Culture for 1869, *a Bee Keepers' Year-Book*, by D. L. Adair, editor, Hawesville, Kentucky, with communications from the best American Apiarians and Naturalists. Price 50 cents. A convenient little manual on a subject that all young country people should make themselves familiar with.

The Southern Horticulturist.—This is an able horticultural journal published at Yazoo, Mississippi, by Dr. H. A. Swasey, a practical horticulturist of experience and intelligence that give the highest character to his work. The article on Pear Culture, in July number, in which the editor's own success is related, is fully worth the subscription price of $2.

Journal of the New York State Agricultural Society.—We receive with regularity this monthly publication, and are indebted to it always for excellent selections from European agricultural publications.

B. K. Bliss & Sons' Autumn Catalogue and Floral Guide.—This is another of those elegantly illustrated catalogues, of which we have several times spoken, which not only represent faithfully to the eye the most beautiful flowers, but give the best directions of practical florists for their management. Price 10 cents, No. 41 Park Row and 151 Nassau street, New York.

Robert W. Scott, Frankfort, Kentucky, has sent us his Illustrated Catalogue of Short-Horn Durham Cattle, "Improved Kentucky" Sheep, Cashmere or Angora Goats, Woburn, Irish Grazier, White Bedford and Yorkshire Hogs blended, bred and for sale at his Locust Hill Farm.

The Household.—This publication, devoted to the interests of the American housewife, issued at Brattleboro', Vt., is one of our most valued exchanges. *The Veranda, The Drawing Room, The Dressing Room, The Library, The Conservatory, The Dispensary, The Nursery, The Kitchen, The Dining Room, The Parlor*, and *Our Hearth*, comprise the various Departments, all of which are well filled with original and well selected matter, that cannot fail to be useful, especially to young housekeepers. It is published monthly at the very low price of $1, by George E. Crowell, Brattleboro', Vermont.

The Mother at Home is a new magazine now in its ninth number, edited by Mrs. Henry Ward Beecher. To a large class of readers in the North and West, the name of Beecher is a passport to favor for any thing that bears it. We do not know how many such there may be among our readers; for us it has no such charm, and we cannot speak of the merits of Mrs. Beecher's magazine till we can bring ourselves to do something more than look through it. The Rev. Henry Ward and Mrs. Harriet, are about as much of this inevitable family as we can manage, in the way of reading.

Cotton on Worn-out Land.

The following paragraph, which we copy from the Eufaula (Ala.) *News*, shows what "worn-out land" in the South can be made to do by high cultivation and judicious fertilizing. We commend it to the attention of our planting friends, and particularly to the few discontented spirits who are striving to find a "better country" than the States of the South. Stay at home! and, by the exercise of patience, energy and industry, guided by intelligence, the waste places will soon be restored, and our loved land be made to "blossom as the rose:"

That Brag Acre.—In company with a friend, we visited yesterday Major L. F. Johnston's acre of cotton, which has been the theme of conversation by the planter, lawyer, merchant and mechanic for the last two months. We had not seen it before in three weeks, and were astonished at the improvement. Almost as level as a hedge that has just been trimmed, denser than any cane patch we ever saw, it stands, we have no doubt, the most perfect acre of cotton ever cultivated. It might be supposed that the luxurious growth would prevent the formation of fruit, but such is not the case. Each plant is a mass of bolls and forms, and the former so heavy on the lower stalks as to seek support on the ground. If worn-out land, by care, attention and fertilizers, can be brought to such high perfection and productiveness, it will only prove as an intelligent planter remarked, that we were "yet in the 'primer,' as far as the cultivation of cotton is concerned."

And this reminds us that, some two weeks since, we had the pleasure of witnessing, on the plantation of Col. Samuel Forward, in Clark county, the wonderful effects of a judicious application of fertilizers upon cotton. The field had been twenty-five years in cultivation, and was literally "worn out." The fertilizer used was the "soluble Pacific guano." On a portion of the field Col. F. applied at the rate of 400 pounds to the acre, on another 200 pounds, and then, at intervals, two rows were left without any fertilizing. The cotton in these two rows was so much smaller than the others as to be easily distinguished so far as the field could be seen. Not only was the plant much smaller, but the bolls were comparatively few and light. Where 200 pounds of guano were applied the plant was fully twice as large, loaded with heavy bolls, promising a yield two or three times as great as the two unfertilized rows. But that portion on which 400 pounds were applied was better still—the difference being strikingly apparent. Indeed, we have seldom witnessed a more beautiful and promising crop. There is no doubt that Col. Forward will realize a profit of two or three hundred per cent. on his investment in fertilizers, besides permanently improving his worn-out lands. And we think it will be found that where the application of guano was the heaviest, there the profit will be greatest. We hope, when the crop shall have been gathered, Col. F. will carefully weigh the product of two rows of each division of his field, and give us the result. Such experiments, conducted by an intelligent and conscientious planter like Col. Forward, are of exceeding interest and of great practical value to the planter. If we are not greatly mistaken, it will soon be made apparent that the most valuable lands in the South are the old "worn-out" fields that have been cast off as worthless.—*Mobile Register*.

Southern Black Oak Bark.—It has been found that Southern Black Oak bark makes one of the most useful and important dye stuffs now in use, for giving the ground colors to the finest and most costly fabrics made in colors in European print works. The most expensive colors are made from *flarim*, which is made from the extract of the black oat bark in the South. This *flarim* is worth a dollar per pound. One ton of quercitron, that is, black oak bark, yields 150 pounds of flarim. A cord of black oak bark will yield a ton of ground quercitron, which, when properly ground and prepared, is worth $35 to $50 and $60 and sometimes as high as $80 per ton.

"Bommer Manure."

Editors Southern Cultivator: In compliance with your request, I will proceed to explain the process of making the Bommer manure. My memory does not serve me to give the amount of labor required in constructing a heap; nor can I give the exact proportions for making the lye, as I have lost Bommer's pamphlet. But the article of Mr. Byne, from which I extracted in my last communication, fortunately supplies the desired information on both points, sufficiently to enable any one to proceed intelligently; and I therefore quote from it as follows: "In February, 1844, I put up another heap. I had fifteen hands and two wagons engaged in the work; the materials employed were pine leaves, straw and cornstalks, all in a dry state; much the largest portion being leaves. The site was cleared of trees and shrubs, by digging up their roots. The vat was excavated, and the grate constructed, and five hundred wagon loads of material were put on, and all in readiness for watering in eight days. This may give an idea of the labor necessary to putting up the first heap, though greatly exaggerated as to the time and labor to be bestowed on any subsequent heap—for full half the time was consumed in clearing the trees, &c. * * * On this last heap, I used ten barrels of lime, four loads of ashes, forty pounds of saltpetre, four bushels common salt, and about four loads of fresh stable manure. From this heap I hauled on a cotton field about three hundred wagon loads of as fine, rich, well rotted manure as I have ever seen." Perhaps I can give a better idea of the "modus operandi," by relating my own plan of operations in making manure—particularly as I was enabled to induce Mr. Baer, one of the patentees, who happened to be in Savannah at the time, to superintend the construction of my first heap, that there might be no mistake in the details. My place was on the salts; and salt marsh bordered a portion of each field. We located the vat where I could fill it with salt water at high tide; Mr. Baer thinking I could thus dispense with the purchase not only of salt, but also of saltpetre. Into this water was put four or five bushels of lime, obtained by burning oyster shells on the place, two or three bushels of soot, and the same quantity of ashes, obtained from the negro houses, and a good wagon load of fresh stable manure. He advised also that any animal that died on the place should be thrown into the vat, as its decomposition would increase the value of the lye. Above, and contiguous to the vat, the land was smoothed and graded, so that any water poured on it would return to the vat through shallow drains. Over this ground, so prepared, a grating was built of stout pine logs placed across the yard, with rails or poles upon them; and brush upon the rails to keep the vegetable matter from choking the drains, and also to give air to the bottom of the heaps. The materials used were marsh grass, pine straw, leaves, weeds, and marsh rack which was thrown up by the storms. This was laid upon the brush, treading it down, and mixing it as much as possible; keeping the finer portions on the edges, for the reason which will shortly appear. After building up five or six feet, a watering was given (the ingredients in the vat being always well stirred before each watering), and then a hand was put to run the side of the heap with the point of a spade, in order to keep them square and plumb, and also to make them firm, so as to keep in all heat and gases which would be evolved in the decomposition—the firm portions of the material on the edges facilitating the work. This ramming was continued until the heap was finished; and repeated at each of the two subsequent waterings. And when properly done, the walls are perfectly square and plumb; and so hard that your finger would hardly penetrate them. After the heap was raised to the proper height and thoroughly watered, a thick coat of marsh mud was spread over it to keep in heat and gases. At each watering (which should be *copious* and at intervals of about ten days, and with me, was done sometimes with buckets, and sometimes with a square box pump), holes were made through the mud to admit the lye, and afterwards closed with the foot. At the first watering, the lye nearly all ran back to the vat, without any alteration of color; but at every subsequent watering it passed off much darker; and in less quantity. And at the last, a crowbar had to be used to open deep holes in the heap for the lye to be poured in; and very little of it passed through. Whenever it was necessary to add water to the vat, more of the ingredients were also added. My heaps were generally forty feet square, and raised to the height of about sixteen feet. But at the end of about six weeks the height was only between eight and ten feet. I could make and

rot two such heaps in about two months, without at all interfering with the ordinary work of the plantation; and which, when ready to haul out, could be cut down with a spade almost as easily as a cheese is cut with a knife—a good, rich, well decomposed mass. Taking the weight of a cord of ordinary manure at three thousand pounds, I made in that time *three hundred tons* of a manure, which has proved itself superior to that from the barn-yard. And that too, without costing me one cent of cash. Can any one show a cheaper or more expeditious mode of making that quantity of good manure? Some may suggest that my opportunities for collecting the material were peculiarly favorable. True. But I purposely quoted in my previous article the opinion of the Maine Farmer, that it might be seen how profitable it was to practice this system even where, apparently, there was no very extra facility of getting either labor or material. There is not a planter or farmer in the interior of Georgia who cannot find on his place more material than he can use. Let him collect the corn and cotton stalks, weeds, broomgrass, and other coarse and useless grasses—in fine any and every thing that will rot, and he will find he has as much as he can haul. And now, Messrs. Editors, let us see what are the advantages of this "method."

1st. It gives the farmer an unlimited supply of some of the best and cheapest manure he can have.

2d. It enables him to make the manure in the very field where it is to be used, or as near it as water can be had; thus saving a great deal of heavy hauling.

3d. He is not compelled to keep a large stock of cattle in order to make a large quantity of manure—which is *of some consideration* in these "*out of joint*" times—and

4th. And lastly, there is no danger of his spreading the seeds of weeds or bad grasses; as the heat that is evolved in the decomposition entirely destroys their vitality. This, of itself, is of vast importance.

And what are the objections to it? The only one I have heard of which deserves the least attention, is, the *labor of collecting and hauling the material.*—*K., in Southern Cult.*

To Protect Fruit Trees from Mice.—Strips of old tin, wound around the collars of the trees, have been found a perfect coat of armor, proof against the attacks of mice.

Treatment of Farm-Yard Manure.

There are various theories regarding the best treatment of farm-yard manure; and we have freely published every system which has been recommended by successful farmers. Thus, in 1864, Mr. J. J. Mechi advocated the making of manure under the animals in covered sheds, and its removal every month or two immediately to the fields. Surface manuring, in fact, is a mode particularly approved in Great Britain and where the arguments in favor of the surface application of manure are presented in a very convincing manner. Without giving an unreserved endorsement of any special plan for applying the manures of the farm-yard, we are free to confess that all the various modes advocated are sometimes successful; but for a general and never-failing system of manure management, we consider that the compost heap under a covered shed, with a cemented cistern to collect the drainage of the barn-yard, which should be pumped frequently to the top of the heap, and allowed to filter through the manure—so as to prevent fire-fanging, and insure its speedy decomposition—is comparably the best treatment of the accumulations of the cattle stables and farm-yard.

The economical and conservative features of this plan will be fully understood from the following recapitulation of the *modus operandi* which we have heretofore recommended in the columns of the Working Farmer:

In composting stable manure, in the most economical manner, the evaporation of the organic parts and the leaching of the ashy (and other) portions must be avoided, while the condition of the mass is such as to admit of the perfect decomposition of the manure.

Solid manures in their fresh state are but of very little use to plants. It is only as they are decomposed, and have their nitrogen turned into ammonia, and their other ingredients resolved into the condition required by plants that they are of much value as fertilizers. We have seen that, if this decomposition takes place without proper precautions being made, the most valuable parts of the manure would be lost. Nor would it be prudent to keep manures from decomposing until they are applied to the soil, for then they are not immediately ready for use, and time is lost. By composting we aim to save everything, while we prepare the manures for immediate use.

Shelter.—The first consideration in preparing for composting, is to provide proper shelter. This may be done either by means of a shed or by arranging a cellar under the stables, or in any other manner that may be dictated by circumstances. It is no doubt better to have the manure shed enclosed so as to make it an effectual protection; this, however, is not absolutely necessary if the roof project far enough over the compost to shelter it from the sun's rays and from driving rains.

The importance of some protection of this kind, is evident from what has already been said, and, indeed, it is impossible to make an economical use of manures without it. The trifling cost of building a shed, or preparing a cellar, is amply repaid in the benefit resulting from their uses.

The Floor.—The floor or foundation on which to build the compost, deserves some consideration. It may be of plank tightly fitted, a hard bed of clay, or better, a cemented surface. Whatever material is used in its construction (and stiff clay mixed with water and beaten compactly down answers an excellent purpose,) the floor must have such an inclination as will cause it to discharge water only at one point. That is, one part of the edge must be lower than the rest of the floor, which must be so shaped that water will run toward this point from every part of it: then the floor being water tight—all of the liquids of the compost may be collected in a tank.

Tank.—This tank used to collect the liquids of the manure may be made by sinking a barrel or hogshead according to the size of the heaps in the ground at the point where it is required, or in any other convenient manner. In the tank a pump of cheap construction may be placed, to raise the liquid to a sufficient height to be conveyed by a trough to the centre of the heap, and there distributed by means of a perforated board with raised edges, and long enough to reach across the heap in any direction. By altering the position of this board, the liquid may be carried evenly over the whole mass.

The compost is made by laying on the floor ten or twelve inches of muck, and on that a few inches of manure, continuing in this manner until the heap is raised to the required height, always having a thick layer of muck at the top.

After laying up the heap, the tank should be filled with liquid manure from the stables, slops from the house, soap-suds, or other water containing fertilizing matter, to be pumped over the mass. There should be enough of the liquid to saturate the heap and filter through to fill the tank twice a week, at which intervals it should be again pumped up, thus continually being passed through the manure. This liquid should not be changed, as it contains much soluble manure. Should the liquid manure named above not be sufficient, the quantity may be increased by the use of rain water. That falling during the first ten minutes of a shower is the best, as it contains much ammonia.

The effects produced by frequent watering the compost heap is one of the greatest advantages of this system. The soluble portions by the manure are equally diffused through every part of the heap. Should the heat of fermentation be too great, the watering will reduce it. When the compost is saturated with water, the air is driven out; and as the water subsides, fresh air enters and takes its place. The fresh air contains oxygen, which assists in the decomposition of the manure. In short, the watering does all the work of forking over by hand much better and much more cheaply.

At the end of a month or more, this compost will be ready for use. The layers in the manure will have disappeared, the whole mass having become of a uniform character, highly fertilizing and ready to be immediately used by plants. It may be applied to the soil, either as a top-dressing or otherwise, without fear of loss, as the muck will retain all the gases which would otherwise evaporate.

The cost and trouble of the foregoing system of composting are trifling compared with its advantages. The quantity of the manure is much increased, and its quality improved. The health of the animals is secured by the retention of those gases, which when allowed to escape, render impure the air which they have to breathe. The cleanliness of the stable and yard is much advanced, as the effete matters, which would otherwise litter them, are carefully removed to the compost.

As an instance of the profit of composting, it may be stated that Prof. Mapes has decomposed ninety-two cords of swamp muck, with four hundred bushels of the lime and salt mixture, and then composted it with eight cords of *fresh* horse dung, making one hundred cords of manure, fully equal to the same

amount of stable manure alone which has lain one year exposed to the weather. Indeed, one cord of muck, well decomposed, and containing the chloride, lime and soda of four bushels of the mixture, is of itself equal in value to the same amount of manure which has lain in an open barn-yard during the heat and rain of one season, and is then applied to the land in a raw or undecomposed state.

The foregoing system of composting is the best that has yet been suggested for making use of solid manures. Many other methods may be adopted when circmstances will not admit of so much attention. It is a common and excellent practice to throw prepared muck into the cellar under the stables, to be mixed and turned over with the manure by swine. In other cases the manures are kept in the yard, and are covered with a thin layer of muck every morning. The principle which renders these systems beneficial is the absorbent power of charcoal.

One important part of this plan for preserving and increasing the quantity and value of barn-yard manures should not be overlooked in the economy of the farm. It is the trebling or quadrupling of the amount of manures thus saved by constant additions of muck, woods-earth, leaves from the woods, road or ditch scrapings, head-lands, sods from the fence-sides which the plough cannot reach, and all the miscellaneous resources of the farm in the form of weeds and the waste of the gardens, fields, etc. By the industrious accumulation of these enriching supplies to the compost heap, the farmer need never lack for manure to feed his crops, nor be ashamed of the product of his labors. If his land is otherwise properly cultivated, and liberally manured withal, he may challenge the competition of the first agriculturists of the world.—*Working Farmer.*

When They Sow Grass Seeds.—The Irish Farmer's Gazette, issue of July 21st, says: This month is the best in the year for laying down with permanent grass seeds. There are many chances against spring-sown seeds; but those sown at this season have everything in their favor. The ground should be well pulverized and thoroughly cleaned for their reception. A little rape seed may be sown amongst grass seeds at this period with advantage—say about 4 lbs. per Irish acre if the land be rich; if poor, double that quantity may be sown.

Clover as a Manure for Wheat.

As the idea still prevails to a considerable extent, that because clover contains a large amount of some of the best fertilizing substances, it must be very exhausting to the soil, I am very glad to be able to condense the following from a recent lecture by Dr. Voelcker, than whom there is no better scientific authority.

In connection with other field experiments, one was undertaken to investigate the causes of the benefits of growing clover as a preparative crop for wheat. It is well known in England that if farmers can succeed in growing a good crop of clover, they are almost certain to get a good paying crop of wheat. All agricultural matters depend on each other. If we can enable the farmer to produce good crops of clover, we shall place him in the very best position to obtain paying crops of grain. Hence, it is concluded that the very best preparation, the very best manure, is a good crop of clover. "Now, at first sight, nothing seems more contradictory than to say that you can remove a very large quantity of both mineral and organic food from the soil, and yet make it more productive, as in the case of clover. Nevertheless it is a fact, that the larger the amount of mineral matter you remove in a crop of clover, and the larger amount of nitrogen that is carried off in a crop of clover hay, the richer the land becomes."

This, it is said, is a strange chemical anomaly, which cannot be discarded, and which invites investigation—an investigation that has occupied more than ten years. But only during the past season has Dr. Voelcker been able to explain thoroughly the strange anomaly that is presented by the growth of clover as a preparative crop for wheat. The explanation is simple, though puzzling when the chemical points are not understood. In a chemical point of view, clover is the most exhausting crop that can be grown; whilst in a thoroughly practical point of view, it is the most restorative crop, and the best preparation for wheat that can be grown. The large amount of mineral matter, and of nitrogen, removed in a crop of clover hay is given. On comparing this with what is removed by a crop of wheat, it is found that in a clover crop there are fully three times as much mineral matter, and more than six times as much nitrogen removed, as there is in a crop of wheat. It might be expected that clover, which re-

moves so much nitrogen from the soil, would be benefitted by nitrogenous manures; but the reverse is the case. Wheat is benefitted by such manures; but this is not the case with clover, which is most benefitted by mineral manures; and notwithstanding the large amount removed, leaves the land much richer in these matters than it was before growing clover. By growing clover a vast amount of mineral matter is brought within reach and rendered available to the roots of the grain crops, that otherwise would remain in a locked up condition. Clover, by means of its long roots, penetrates a larger mass of soil. It gathers up, so to speak, the phosphoric acid and the potash disseminated throughout the soil; and when the land is ploughed and the roots left in the surface, they leave, in an available condition, the mineral substances which the wheat plant requires. And, while a large amount of such matter is removed in clover, still the amount rendered available, and left for the succeeding crop of grain, is very much larger than the quantity removed in the clover hay.

The accumulation of nitrogen after the growth of clover is also extremely large. Even when the crop is small the amount left in the surface soil amounts to tons; and the better the clover crop the greater the accumulation of nitrogen. In experimenting to determine the amount, it was found that wheat was much the best where the clover was largest, and that it was due to the accumulation of nitrogen that the wheat grew so much more luxuriantly. Another experiment was made to ascertain whether there was more nitrogen left in the soil after the clover was cut twice, than when is was mown once and allowed to go to seed. Generally crops are most exhausting when allowed to go to seed. But in clover we have a remarkable exception to this rule, as it is found that after growing clover for seed, a very much larger quantity of nitrogen remains in the surface soil, than when the clover is mown twice. It was also ascertained that when you feed off clover by sheep, while it is still young, and everything is returned to the soil, the land is not in so good condition as when clover hay is taken off. This is against all reason, but the positive evidence of the clover fields ought to be conclusive. Those practically acquainted with the subject must have seen that wheat was not so good where clover was fed off quite young, and that the best crop of wheat is produced where clover went to seed. Dr. Voelcker has "repeatedly and repeatedly seen it."

Much of the accumulation of nitrogen is due to the clover leaves; "when we grow clover for seed, the leaves continually drop and enrich the surface soil." The clover plants take the nitrogen from the atmosphere and convert it into their own substance, which, on decomposition of the clover roots and leaves, produces abundance of ammonia. In reality the growing of clover is equivalent, to a great extent, to manuring with Peruvian guano; there is a larger amount of nitrogen accumulated in the first six or twelve inches of soil than there is in the heaviest dose of guano that any person would think of using. The total quantity of nitrogen calculated for twelve inches of soil on an acre, amounted, in the field mown twice for hay, to 5,249½ lbs.; whereas the amount where the field was cut once and then allowed to go to seed, was 8,126½ lbs., the latter having an excess amounting to 3,592 lbs. There were also more roots where the clover went to seed.

Dr. Voelcker has frequently been struck with the remarkably luxuriant appearance of wheat sown where a heavy crop of clover had been removed from the land. At first it was doubted, but at last he was obliged to confess that it invariably follows when you get a good crop of clover that you get a good crop of wheat. An enormous amount of nitrogenous organic matter is left in the land after the removal of the clover crop, and this gradually decays and furnishes ammonia, which, at first, during the colder months of the year, is retained by the well known absorbing properties which all good wheat soils possess. Investigation shows that ammoniacal salts in the soil are rapidly transformed into nitrates. As ammonia is gradually formed by the decomposition of clover, it is much better saved by the large amount of vegetable matter thus left in the soil. So the benefit derived from the growth of clover is very much greater than can be secured by a direct application of nitrate of soda. The latter is not retained in the land, not even in clay soils, but passes through like a sieve. But while nitrate of soda may be readily washed out of the soil, the principal advantage of clover roots and leaves is, that in decaying they furnish a continuous source from which

nitrates are produced for the use of growing plants. If some nitrates pass off, there is an enormous accumulation of decaying organic matter left. The clover roots and leaves are not all at once changed into ammonia, as there is a gradual but complete series of chemical transformations, which is highly conducive to the gradual development of fertilizers from the clover plant. Whereas, by using nitrate of soda there is a risk of having it washed away. So there is more certainty of growing a good crop of wheat through the instrumentality of clover, than through the direct supply of nitrate of soda.—*Country Gentleman.*

Vick's Catalogue of Bulbs.

We have at hand the Catalogue of Hardy Bulbs suitable for Autumn Planting, just issued by Jas. Vick, Rochester, N. Y. Flower lovers will do well to send for it. We copy from it the following simple directions for the culture of bulbs:

The treatment of bulbs is so simple, and the results so satisfactory, that it seems exceeding strange that they are not far more generally cultivated. Any fair garden soil will grow bulbs well; but it must be well drained, so that the water will not lie on the surface for any length of time, or the bulbs will be likely to rot. If the soil is poor, enrich it with well-rotted stable manure, or with surface earth from the woods. Cow manure is excellent for bulbs. Manure should be mixed thoroughly with the soil; and if the ground is stiff and the manure fresh, it is well to put a little sand around each bulb at planting.

The soil for bulbs should be dug deep; and if stiff from too much clay, an addition of leaf-mold scraped from the woods, or a liberal dressing of sand, will be of great benefit. A free use of cow manure and sand will always produce good flowers. The most important point of all, however, is thorough drainage; and if this is not neglected, success is almost certain. After planting, and before winter sets in, cover the beds with a good dressing of leaves—say five or six inches in depth, or more. Over these throw a little brush or boards, to prevent blowing off. If the leaves cannot be obtained readily, coarse manure will answer. In the spring, as soon as hard frosts are over, rake off the covering. Nothing more is required except to destroy the weeds as fast as they appear.

As a general rule, beds should be made so narrow that the weeds can be destroyed and the ground kept mellow without walking among the plants. Any breaking or wounding of the leaves causes injury to the bulbs, but the flowers can be cut at pleasure, and should be removed as soon as they fade.

Jersey Bulls.

The Jersey bull, "St. Helier," was imported by myself from the Isle of Jersey, last spring. He is a grand representation of the typic characteristics of the old Jersey race, uncontaminated by admixture with that blood which was introduced into the Island some thirty or forty years ago, for the purpose of modifying this angular and diminutive breed to suit the *bulky* tastes of their patrons in England, the then great mart for Jersey cattle.

This most distinctive features of this specimen of the old Norman race of cattle, is the preponderance of the abdominal over the thoracic capacity. The vast abdomen, deep flanks and wide loins, are in strong contrast to the small, thin chest, deficient muscles and bones, which are almost as fine as those of an antelope.

"St. Helier" is now a year and a half old, and nearly mature. He has the head of a fawn, a large soft eye, elegant crumpled horns, thin yellow ears, a clean neck and throat, a back as straight as a line, a fine long tail, ending in a luxuriant switch, enormous depth of carcass, and amazing fineness of bone—(the canon bone of the leg measuring four and a quarter inches in circumference,)

He is singularly docile, playful and tractable, and is remarkably intelligent.

His skin is almost as soft and thin as a glove, and is as rich in color as chrome itself. His hair is very fine, short and thick; a very brilliant silver-grey on his neck, back and sides, and bright salmon on the perineum, belly, inside of legs, on the forehead, and around his muzzle, without any white; while his tongue, horns, hoofs and switch, are black as ebony.

He has a most graceful, spirited and picturesque form, a feminine air yet full of masculinity, exquisite fineness of structure, vivacity and health.

His dam, though small, gave twenty quarts of milk in her flush, and never dried off.

No description will give an adequate idea of such an animal.—*O. S. Hubbell, in Practical Farmer.*

Keep Sheep,—What Kinds to Get, and Why.

Mutton sheep are the most popular, popular because most profitable, and profitable on account of the meat and wool—combing wool—which they furnish. Their meat and combing wool are in demand, and they are likely to be in demand for some time, at least mutton; that of the best quality will not be apt to change soon. This is the inexorable course of events, tending to diminish the growth of fine wool, especially the superfine, which has been superceded by the less fine, and has almost made the sheep that produce it an extinct race. There are but a few left in Siberia. The glossy fabrics are more sought for; and this the coarser sheep produce the medium, between the coarse (Hairy) and the fine (Merino). The Cotswold is the type of this, including the Lincoln and Dieple.

Though the wool is of importance—of first importance among the wools—it is for their mutton that these sheep are distinguished, including the South Down, which is unsurpassed, if equaled by any. Hence, the South Down and the Cotswold are popular where they can be raised to advantage—near cities and along railroads, where there is access to markets. They require an abundance of food readily accessible, and also winter care: and the more care, the greater will be the profit. It is known that wool, raised in excess (by good breeding) over the ordinary way, will yield from a quarter to a third more, and at not more than one-half the cost of the wool (the excess), depending upon the breed, mode of keeping, and condition of the animal. Barn quarters, and fresh green hay—clover especially—cut when just getting into blossom, are sufficient to do this. It is only in a slight increase of the feed of *such* hay over others, regularly fed and continued during the winter, that the benefit will tell on the fleece as well as on the carcass of the animal.

Now this is a simple way of keeping sheep—warmth and hay—it matters not so much for the mere temperature, so that the weather is dry and the sheep hardy and in good condition. But the rains must be avoided.

Young clover hay, bright and green, will fatten sheep; it will fatten a Leicester, a Cotswold, a South Down—all breeds that require care in breeding. It will do this in winter, it will improve the milk of the ewes in spring, keep the mothers healthy, and bring the lambs in good condition. There is nothing straining about it (early sweet clover hay), nothing over stimulating about it; it is summer feed continued; and we may say with advantage over summer feed in that it is more concentrated, being less watery, and therefore less disposed to be "scoury." But it has so little been tried, "grass" in this way, that it is but, comparatively, little understood, but is fast getting into repute.

But sheep are a "drug." That is one inducement in their favor. Low prices have had their day for the present. There must soon be a rebound, and the mutton and the wool of the Cotswolds and Downs will, combined, produce a rich harvest.

Our advice, therefore, is, prepare this class of sheep, the mutton and combing wool. With the proper care there will be improvement on our present stock; there will be fat sheep and lambs to sell at good, and possibly, at very high prices, and wool to match—match in quantity and quality.

If there should still be a tardy advance in price, the improvement in keeping—the benefit of the *excess* in the improvement over ordinary keeping, as we have said—will still show on the right side, and influence to continued production.

There will be gain, but possibly not so much as with other products; and when the time changes, as it must, there will be all the more profit. Sheep, then, of the kind indicated, will be a treasure.

Keep sheep for the things we have mentioned, and for the improvement of the land, which we do not sufficiently consider; also, for their manure in winter.

But there are many who are remote from the advantages of securing the kinds of sheep specified. The next best thing they can do is, to secure a male—which can be done at no very inordinate price, and without much trouble—and breed from the common long-wooled flocks of the country—any good fair-sized, fair-wooled sheep, and if it must be fine-wooled, let it be so, as a good Cotswold buck will remedy this; he is pretty sure to lengthen the wool.

But now let our friends know that they *must* keep their sheep well if they would succeed. A Cotswold, a Down, Merino, any sheep, however pure the blood, and however reduced, will be a loss without care. With care, the poorest scrag of a sheep will do something. Such a sheep is susceptible of

more improvement—of much improvement. But, combine the two, good blood and good treatment, and there is little risk to run, even in bad times. At the worst, it will be only a comparative loss; other branches of farming would have paid better. But when the flush time comes, all this will be made right—and it must come.—*Prairie Farmer.*

The Hog and His Diseases.

Mortifying as the fact may be to human pride, it is nevertheless certain that in their internal organs and general structure, the hog and the bear more closely resemble man than any other animal. Most of their diseases, as might be expected, closely resemble those of the human species and require similar treatment.

The diseases of swine, though not very numerous, are very dangerous, and soon run their course. The diseases of this animal have, from some cause, received much less attention, and therefore the remedies are more the result of experience than of science.

Bleeding is a remedy for most of the diseases to which the hog is liable. Yet how many of our farmers ever saw a pig bled for medical purposes?

One of the best places that I can find for bleeding a hog is in the roof of the mouth. I have seen them bled from an artery inside of the forearm, just above the knee. My objection to the latter is, that I have always found it more difficult to stop the flow of blood in the artery than from the roof of the mouth. My usual method is to apply a cloth saturated with cold water.

One of the most dangerous diseases to which swine are liable, is one which I have always heard termed blind staggers. The first symptom is a manifest uneasiness on the part of the pig; he will lay down for a minute or so and then get up; walk about for a short time and then lay down again. This will sometimes continue for eighteen or twenty hours. I know of but one instance where it lasted more than twenty-four hours. After a short time the disease becomes more violent, the animal rears on its hind legs, foams at the mouth, grinds its teeth, and is to all appearance blind. Bleeding, if resorted to early in the disease, followed up with a light dose of castor oil or epsom salts, will give relief.

Another disease, which is often fatal, is kidney worm; the first symptoms are a weakness of the loins and hind legs, and, if not checked, is followed by a general prostration of the whole body. As soon as the first symptoms appear, copperas given at the rate of ½ to ¼ tablespoonfull daily for one or two weeks will generally effect a cure. Spirits of turpentine rubbed on the loins, is very good.

The itch—otherwise known as the mange—is another of the most common of the diseases to which the hog is liable; it is not dangerous, but a "mangy" hog will never thrive. Soapsuds, well applied with a good, stiff scrubbing-brush, is a remedy; a running stream to wallow in, or plenty of clean wheat straw, will effect a cure in time.

For coughs and inflammation of the lungs, bleeding should be resorted to, followed with light doses of some purgative medicine, one or half—according to size—drachm of nitre.

A good warm bed, with plenty of straw, is a preventive for all the diseases to which a hog is liable.

I have always found it economical to provide my pigs with a patch of clover to roam in during the summer; if there is a running stream in it, so much the better; but because you provide the pasture, do not stint them on their feed. I think it is a great mistake to starve a pig through the summer, and then cram the corn into him for two and a half months in the fall. I believe it pays to fatten a pig gradually.

I have always been in the way of feeding my corn ground. I have two hogsheads, which are filled alternately with meal, slop from the kitchen, and water. One of the tubs is filled and allowed to sour, while the other is being fed. This souring is a more particular point than some may imagine.—When viewed in a chemical light, it has five stages—1st, the saccharine, by which the gum of the vegetables is converted into sugar; 2d, the vinous, which changes the sugar into alcohol; 3d, the mucilaginous, which sometimes takes the place of the vinous, and changes it into a slimy, gistilaginous product; 4th, the acetic, which changes the alcohol into vinegar; 5th, the putrefactive, which destroys all the nutritive principles and changes it into poison.

The precise point of termination, at which the food becomes most profitable, I have never been able to ascertain practically; but speaking theoretically, I should say that it was between the vinous and putrefactive.—*Germantown Telegraph.*

SUNDAY READING.

Prayer is the peace of our spirit, the stillness of our thoughts, the evenness of recollection, the seat of meditation, the rest of our cares, and the calm of our tempest; prayer is the issue of a quiet mind, of untroubled thoughts; it is the daughter of charity, and the sister of meekness; and he that prays to God with an angry, that is, with a troubled and discomposed spirit, is like him that retires into a battle to meditate, and sets up his closet in the out-quarters of an army. Anger is a perfect alienation of the mind from prayer, and therefore is contrary to that attention which presents our prayers in a right tone to God. For so have I seen a lark rising from his bed of grass, and soaring upwards, singing as he rises, and hopes to get to heaven and climb above the clouds; but the poor bird was beaten back with the loud sighings of an eastern wind, and his motion made irregular and unconstant, descending more at every breath of the tempest than it could recover by the libration and frequent weighing of his wings, till the little creature was forced to sit down and pant, and stay till the storm was over, and then it made a prosperous flight, and did rise and sing as if it had learned music and motion from an angel, as he passed sometimes through the air about his ministries here below; so is the prayer of a good man. Prayers are but the body of the bird: desires are its angel's wings.

A life of religion is a life of faith, and faith is that strange faculty by which man feels the presence of the invisible, exactly as some animals have the power of seeing in the dark. That is the difference between the christian and the world. Most men know nothing beyond what they see; their lovely world is all in all to them—its outer beauty, not its hidden loveliness. Prosperity, adversity, sadness, it is all the same, they struggle through it all alone, and when old age comes, and the companions of early life are gone, they feel that they are solitary. In all this deep, strange world, they never meet, or but for a moment, the spirit of it all who stands at their very side. And it is exactly the opposite of this that makes a christian. Move where he will, there is a thought and a presence which he cannot put aside, he is "haunted forever by the eternal mind." God looks out upon him from the clear sky, and through the thick darkness—is present in the rain-drop that trickles through the branches, and in the tempest that crashes down the forest. A living Redeemer stands beside him, goes with him, talks with him as a man with his friend. The emphatic description of a life of spirituality is—"Enoch walked with God."

The Sabbath days followed each other, and had a higher fulfilment in the Sabbatical year; and the Sabbatical years followed each other till they had a higher fulfilment in the year of Jubilee, the great year of rest, of deliverance and release. But this itself was typical of the christian kingdom; and the prophet Isaiah in describing it, as *the acceptable year*, is by the very word which describe its observance, speaking of the coming of the christian kingdom. This, therefore, is the great Sabbath on earth, which all those Sabbatical days and years presignified. And in this great Sabbath our lot is cast; that kingdom, which consists in doing the work of God, not our own, and in peace and "joy of the Holy Ghost." And yet this fulfilment is but an earnest, and type, and figure of that "rest which remaineth unto the people of God."

It is good to make a jest, but not to make a trade of jesting. Jest not with the two-edged sword of God's word. Will nothing please thee to wash thy hands in but the font? or to drink healths in but the church chalice? Let not thy jests like mummy, be made of dead men's flesh. Abuse not any that are departed, for to wrong their memories is to rob their ghosts of their winding-sheets. Scoff not at the natural defects of any which are not in their power to amend. Oh, 'tis cruelty to beat a cripple with his own crutches. No time to break jests when the heart-strings are about to be broken.

Nothing but cries can pierce the heavens. Prayer is an arrow; if it be drawn up but little, it goes not far; if it be pulled up to the head, it flies strongly and pierces deep; if it be but dribbled forth of careless lips, it falls down at our feet. The strength of our ejaculations sends it up to heaven, and fetches down a blessing.

Pride is the first vice to oppose us, and the last vice which we overcome.

$0,000 Maria Perla de las Antillas Havana Concha Cigars.

Packages of 1000. Manufactured of genuine Vuelta Abajo Tobacco of our own importation. A full flavored Havana Cigar. Well seasoned. Sample boxes of 100 sent by Express at $8, C. O. D., free of expense.

G. H. BOLENIUS, 202 W. Pratt street,

July-1y P. O. Box 1373, Baltimore, Md.

Baltimore Markets, Sept. 25, 1869.

COFFEE.—Rio, 16¼a17¼ c., gold, according to quality: Laguayra 16a18¼ cts., and Java 22a23¼ cts., gold.

COTTON.—We quote prices as follows, viz:

Grades.	*Upland.*	*Gulf.*
Ordinary	30 a—	00
Good do	32 a—	00
Low Middling	26¼a28	00
Middling	28¼a30	00

FERTILIZERS.—Peruvian Guano, $90a95; California, $70; Rodunda Island, $30; Patapsco Company's, $60; Reese & Co's Soluble Pacific Guano, $60; Navassa Guano, $30; Chesapeake Guano, $60; Flour of Bone, $60; G. Ober's (Kettlewells) AA Manipulated, $70; A do. $60; Ammoniated Alkaline Phosphate, $55; Alkaline Phos. $45; Baltimore City Company's Fertilizer, $40; do., Flour of Bone, $60; do., Ground Bone, $45; do., Poudrette, $25; Baugh's Raw-bone Phosphate, $56; Baugh's Chicago Bone Fertilizer, $48; Baugh's Chicago Blood Manure, $48; Maryland Powder of Bone, $48; Rhodes' Super-Phosphate, $50; Rhodes' Orchilla Guano, $30; Lister's Bone Super-Phosphate $55; Berger & Buta's Super-Phosphate of Lime, $56; Andrew Coe's Super-Phosphate of Lime, $60; Zell's Raw Bone Phosphate, $56; Zell's Super-Phosphate of Lime, $60—all per ton of 2,000 lbs.; Ruth's Challenge Soluble Phosphate, $60; Whann's Raw Bone Phosphate, $56. Pure Ground Plaster, $14.75 per ton, or $2.25 per bbl. Shell Lime slaked, 6c., unslaked, 3c. per bushel, at kilns.

FLOUR.—Howard Street Super, $6.00a6.25; High Grades, $7.00; Family, $7.25 a 8.25; City Mills Super, $6.00a6.75; Baltimore Family, $11.00.

Rye Flour and Corn Meal.—Rye Flour, $6.50a6.75; Corn Meal, $5.62a5.75.

GRAIN.—*Wheat.*—Good to prime Red, $1.50a1.55; White, $1.47a1.65.

Rye.—$1.12a1.18 per bushel.

Oats.—Heavy to light—ranging as to character from Middle. per bushel.

Corn.—White, $1.27a1.32; Yellow, $1.20a1.27 per bushel.

HAY AND STRAW.—Timothy $24a28, and Rye Straw $18 a20 per ton.

PROVISIONS.—*Bacon.*—Shoulders, 16¼a16¾ cts; Sides, 18¼a20¼ cts.; Hams, 24a25 cts. per lb.

SALT.—Liverpool Ground Alum, $1.85a2.00; Fine, $2.70 a2.90 per sack; Turk's Island, 50 cts. per bushel.

SEEDS.—Timothy $4.62a4.75; Clover $8.00a—.—; Flax $1.50.

TOBACCO.—We give the range of prices as follows:

Maryland.	
Frosted to common	$5.00a 0.00
Sound common	7.00a 8.00
Middling	9.50a11.00
Good to fine brown	11.50a15.00
Fancy	17.00a30.00
Upper country	7.00a35.00
Ground leaves, new	3.00a12.00
Ohio.	
Inferior to good common	4.00a 6.00
Brown and greenish	6.00a 8.00
Medium to fine red and spangled	9.00a13.00
Fine spangled	12.00a25.00
Fine yellow and fancy	30.00a40.00

WOOL.—We quote: Unwashed, 25a28 cts.; Tub-washed, 40a41 cts.; Pulled 36a37 cts.; Fleece 40a45 cts. per lb.

CATTLE MARKET.—Common, $4 50a5.00; Good to fair, $5.50a6.50; Prime Beeves, @6.50a7.50 per 100 lbs.

SHEEP.—Fair to good, 4a5¼ cts. per lb., gross.

HOGS.—$12.75a13.75 per 100 lbs., net.

Wholesale Produce Market.

Prepared for the American Farmer by HEWES & CO., *Produce and Commission Merchants, 97 Exchange Place.*

BALTIMORE, Sept. 25, 1869.

BUTTER.—Western solid packed 25a40 cts.; Roll —a—; Glades 30a45; New York 40a50; Franklin street 35a37 cts. for regular lots.

BEESWAX— —a— cts.

CHEESE.—Eastern, 16a1¼; Western, 14 to 16 cts.

DRIED FRUIT.—Apples, 5; Peaches, 8a8.

EGGS—23 cents per dozen.

FEATHERS.—Live Geese, — to — cents.

LARD.—Western, 21; City rendered, 21½ cts.

TALLOW.—11a12 cents.

POTATOES.—$1.50a2.25 per bbl.

NEW ADVERTISEMENTS—OCTOBER.

Fertilizers—E. Whitman & Sons.
Implements— do.
Nurseries, Plants, &c.—Edw'd J. Evans & Co.
" John S. Collins.
" W. F. Heikes.
" Charles Black.
" Otto & Achellis.
" Wm. K. Nelson.
" H. M. Engle.
" Robert Soutter.
Stock—S. W. Ficklin.
Agricultural Steamer—D. R. Prindle.
Stoves—Charles Fisher.
Pianos and Organs—Chas. S. Benteen.
Commission Merchant—Frank Lewis.
Medical advertisement—Dr. R. L. Hamilton.
" J. T. Inman.
Knitting Machine—Essick Knitting Machine Co.
Agents Wanted—American " " "
" Girard Wire Mills.
" Secomb & Co.

Contents of October Number.

Work for the Month 97
The Vegetable Garden 99
The Flower Garden 99
The Fruit Garden 99
Fruit Enough for a Family 100
Comparative Value of Hay, Corn and Roots 101
The Origin and Cause of Disease of the Silk-worm 102
Threshing from the Field 104
Improved Farm Machines 105
Breeding Sheep for Mutton 106
Philosophy of the Pig-Sty 106
Good Butter 107
Fattening Hogs 107
Deodorizers for Stables 108
Agriculture 108
Suggestions for Starting a Dairy 109
Young Stock vs. Old Stock 110
Marine Vegetation 110
Small Farms vs. Large Farms 111
Making Home Pleasant 111
Poultry-House at Ogden Farm 112
Vegetable Physiology 113
State Agricultural and Mechanical Association 114
Management of Farm Manures 114
Suggestions for the Times 115
Chinese Labour 115
Provision for Cattle on an English and on an American Farm 116
Late Sowing 117
Book Table 118
Cotton on Worn-out Land 119
"Bommer Manure." 120
Treatment of Farm-Yard Manure 121
Clover as a Manure for Wheat 123
Vick's Catalogue of Bulbs 125
Jersey Bulls 125
Keep Sheep.—What Kinds to Get, and Why 126
The Hog and His Diseases 127
Sunday Reading 128

THE MYSTERY SOLVED.

THE times are pregnant with startling events; old isms, theories, and fallacies are fast disappearing beneath the gigantic wheels of progress and human development. Change is written with the iron finger of time, upon all matter, seen and unseen, material and spiritual. The mighty, omnipotent power that fashioned the stupendous orbs that revolve in the immensity of space, created all things in wisdom and purity. The majestic ocean, the deep blue sea, the beautiful earth and all things therein contained were planned and created by virtue of that universal law of harmony, whose power holds sway over all. Intelligence is manifested in all created things, both great and small—the tiny insect, the beautiful butterfly, and God-like man, are each endowed according to their kind, with that instinct or intelligence ordained by Him who "doeth all things well."

Wisdom, justice, and love, are the three great standard bearers whose sumptuous hands mete out to each individuality the measure of Divine, universal law, designed by that mighty Mind who fashioned alike noble man in his own image and all lesser created things. The beauties and wonders of nature never cease to the progressive human mind. Eternal progress is written with the unerring finger of Deity upon all. The theme of human life is laden with sweet incense to all who, like angels of mercy and goodness, are ever busy, ever ready to devise means for the alleviation of human woe and the prolongation of life. The unceasing march of individual and national progress is alone due to the bold and fearless thinkers and actors upon the stage of mundane life. The stern exigencies that confront and imperil the gigantic minds of all countries cannot awe or swerve them in the path of duty and power. Disease and death now hold carnival throughout the land; suffering humanity calls loudly for the "Balm of Gilead," whose subtle, mystic power can heal and save from wreck and ruin. A saving and skillful hand may be found ready to administer to the suffering at all times, in PROF. HAMILTON, at his old medical emporium, where thousands, from all countries and climes, have received the healing balm for every ill.

In Harper's Monthly Magazine for February, 1868, may be found a life of PROF. R. LEONIDAS HAMILTON, M. D., whose discoveries in reference to

LIVER, LUNG, AND BLOOD DISEASES,

are now attracting the attention of the whole medical world, and whose success is carrying joy and restored health to thousands.

His well attested cases of liver diseases, lung diseases, blood diseases, and diseases of the kidney, bladder, spine, stomach, and other organs, are now well known all over the United States and Canada, the West Indies, Europe, Mexico, Sandwich Islands, and in many of the commercial and missionary settlements in every part of the world.

For the benefit of the sick who may wish to know positively when they have derangements of the Liver of more or less severity, a combination of the usual symptoms found in such cases will be found below:

SYMPTOMS OF LIVER COMPLAINT.

A sallow or yellow color of the skin, or yellowish brown spots on the face and other parts of the body; dullness and drowsiness, with frequent headache; bitter or bad taste in the mouth, dryness of the throat, and internal heat; palpitation of the heart; in many cases, a dry, teasing cough, with sore throat; unsteady appetite; sour stomach, with a rising of the food and chocking sensation in the throat; sickness and vomiting; distress, heaviness, or a bloated or full feeling about the stomach and sides, which is often attended with pains and tenderness; aggravating pains in the sides, back or breasts, and about the shoulders; colic pain and soreness through the bowels, with heat; constipation of the bowels, alternating with frequent attacks of diarrhœa; piles, flatulence, nervousness, coldness of the extremities; rush of blood to the head, with symptoms of apoplexy; numbness of the limbs, especially at night; cold chills, alternately with hot flushness, with dullness, low spirits, unsociability, and gloomy forebodings, and with ladies, female weakness and irregularities.

DISEASES CAUSED BY LIVER COMPLAINT.

The Human System, the most perfect of all the works of the Creator, is so constituted that, to be entirely healthy, it must throw off the waste, worn-out, and poisonous materials as fast as it takes on new materials from our food and drink. The food is assimilated and made into nourishing and healthy blood principally through the office of the stomach, liver and lungs. The worn-out materials are mostly excreted by the liver, lungs and kidneys; but all medical men have heretofore failed to recognize the vast importance of the liver as a blood-purifying and excreting organ. The most learned German physiologists, who base their assertion upon actual experiments only, state that the amount of BILE which should be manufactured by the liver and poured into the intestines each day is two and a half pounds. All persons interested to know this fact, and the experiments to prove it, may consult Verdaunga-asefte und Stoffwechsel, Leipsig, 1852, or they may see a resume of these facts in P of Dalton's Physiology.

Remember one thing more! The bile is something more than the natural physic of the bowels, as has heretofore been thought by eminent medical men. The bile is mostly made up of the waste matter of the blood—effete, worn-out, and injurious materials. If the liver does not make this bile, and pour it into the intestines daily, it remains in the blood as a poison. It poisons the blood itself, and circulates as irritating and poisonous matter in the blood, to every organ in the system.

The blood, poisoned with the daily accumulated excess of bile returns from the liver to the heart, and the nerves of the heart are affected, and we have an oppressed feeling at the heart and palpitation; and if this cause is long continued, we get a chronic irritation, undue excitement, and morbid nutrition of the heart, developing many forms of Heart disease.

Just so with the Lungs. The bile-poisoned blood goes from the upper and right cavity of the heart to the lower cavity, and thence directly to the lungs, circulating all through those most delicate organs. The lung tissues are poisoned and irritated, and they invite the scrofulous humors of the blood, because they are thus irritated. Hence Consumption, which is local scrofula, as defined and proved by Lugol and all the most scientific authers. The lungs try to oxygenize and purify the blood, and they do it in a great measure; but they are overworked and irritated, and you smell the blood-poison matter in the man's foul breath. Catarrh, Bronchitis, Asthma, Nervous Cough, and Consumption itself, are the results. If the Liver had done its duty—made and excreted that bile—the Lungs would not have been diseased.

Just so with the Blood itself. It goes from the lungs back to the upper left cavity of the heart, thence to the lower cavity, and thence through the arteries and capillaries to every organ and tissue of the system.—Among the most important of those organs are the kidneys, furnishing the urinary secretion, a most important excretion. But the kidneys themselves are irritated and congested by the presence of the bile-poisoned blood, and they become diseased. Every person who has had a liver-disease knows that the urine is scanty, high-colored and loaded with red deposits, at times, or other diseased products. Hence, diseases not only of the kidneys, but also of the bladder.

But this is not all—far from it. The poisonous blood goes to the Brain, and affects the great electrical centre of all vitality; and the brain, stimulated by unhealthy blood, cannot perform its office healthfully. The person has dullness, headache, incapacity to keep his mind on a subject, cannot remember, has a crowded and dizzy feeling, is sleepy, becomes nervous, gloomy, easily irritated, and often has a bilious or neuralgic headache.

And the blood itself becomes diseased, as it forms the sweat upon the surface of the skin; it is so irritating and poisonous that the person has discolored brown spots, pimples, blotches, and other eruptions, sores, boils, carbuncles, and other scrofula tumors.

Disease of the Liver itself is the most common of all diseases. The sudden changes of the New England climate the malarial influence of the West, and the heat also of the South, as well as the dietetic habits of the people of this country, and other causes, all tend to

velop the Liver disease, in some of the varied forms, throughout the United States. This is true of both man and beast, as every butcher knows that he finds the livers of cattle, sheep and swine diseased ten times where he finds any other organ diseased once. Almost every person is bilious at some time, and many are constantly bilious. It may be mere congestion of the Liver and torpidity of its function, or this may result in some structural or organic affection. But the Liver can never be diseased without affecting the stomach, bowels, and the other organs we have spoken of, and costiveness, piles, dropsy, diarrhœa and impoverished blood are among the necessary results.

CHRONIC DISEASES.

Prof. HAMILTON will also inform the afflicted, that having been written to by thousands of patients, his office has become the greatest centre for the treatment of novel, interesting and peculiar cases of any place in the world. No hospital in Europe or America has one-tenth the number of singular and remarkable cases as are presented either personally or by letter, at No. 546 Broadway. It is, indeed, an Emporium of Clinical Medicine. Among the thousands of cases arising from diseases of the Liver, Lungs, and Blood, which he treats, the following receive a prominent and most successful attention: Sick and Bilious Headache, Nervous and Neuralgic Headache, Chronic Diarrhœa and Dysentery, Costiveness and Piles, Pimples, Eruptions and Brown Skin, Dropsy and Diseases of the Kidneys, Consumption of the Blood, Scrofula in all its forms, Spinal Irritation, Salt Rheum, and Erysipelas, Cancers, Asthma, Epileptic Fits, Nervous Diseases of the Heart, Diseases of Females, and all diseases arising from Impurities of the Blood, Rheumatism, Catarrh and Throat Diseases, etc., etc.

SYNOPSIS.

For the greater convenience of those wishing to write me about their diseases, I insert the following, which embraces nearly all that I require to know in most cases: Have you constipation of the bowels? Have you attacks of the Diarrhœa? Have you pains in the back, sides, or shoulders? Have you a pain, or tenderness about the stomach? Have you a dry, teasing cough? Have you sallow or yellow skin? Have you brown spots on the face or any part of the body? Have you a headache? Are you dull, heavy or sleepy? Have you a bitter or bad taste in the mouth? Have you an irritation or dryness in the throat? Have you palpitation of the heart? Have you cold chills or hot flashes? Is your appetite unsteady? Is your stomach sour? Do you raise or spit up your food? Have you any choking spells? Are you troubled with sickness or vomiting? Do you feel bloated about the stomach? Have you a tired or sore feeling on rising in the morning? Do you have colic pains? Have you wind in the stomach or bowels? Have you piles or fistula? Have you nervous and all-gone feelings? Have you cold feet and hands? Have you a rush of blood to the head? Have you uneasiness on lying on the sides? Have you fainting or epileptic fits? Have you great lowness of spirit? Have you gloomy forebodings?

PLEASE READ THE FOLLOWING, AND SEE WHO ARE CURED.

R. Leonidas Hamilton, M. D.—Dear Sir—Duty prompts me to a most grateful acknowledgment of the astonishing success of your treatment in my case. For nearly three years I have suffered from Catarrh, Nervous Rheumatism, Liver Complaint, and Extreme Nervousness, insomuch that life had become an intolerable burden, and death was looked for as my only release; physically and mentally broken down, I was utterly unable to do the duties of a minister, and was preparing to retire from the ranks, when providentially, my eyes fell on your advertisement in the New York Methodist. I had already traveled far and expended so much in the effort to secure a cure, that it was with great reluctance and little hope that I addressed you. Your reply inspired me with hope—your remedies were received and taken, and the result was as marvellous to those who knew my condition as it was gratifying to myself. In three weeks I was again in the pulpit preaching with unusual vigor, and if my services are of any value to the church, it is indebted to you, under God, for their continuance. You may refer to me at any time and I shall be ever pleased to bear testimony to your extraordinary skill.

Yours truly, Rev. JOSEPH JONES,
Saint Joseph, Mich.

CASES OF LIVER COMPLAINT.

It is with much satisfaction that I invite particular attention to the following voluntary statement of the eminent Divine and Missionary, the Rev. A. A. Constantine, recently located in the interior of Africa:

No. 43 Ann Street, New York City.

Dr. R. Leonidas Hamilton, No. 546 Broadway—My Dear Benefactor. A sense of duty impels me to say that your medicines have done for me what no other physician has been able to do. I have been a sufferer for many years from diseases contracted while laboring as Missionary in Africa. Last fall I was declining fast, and had all the symptoms of quick consumption. I applied to you for help. You remarked—"Before I get through with you, I will make you feel several years younger than you have felt since you left Africa." I thought but little of that as I had often received similar assurances from eminent physicians, both here and in Europe; but in less than two weeks all my symptoms were entirely changed, and my health and strength improved very fast. In a few weeks I found myself in the enjoyment of better health, and able to perform more labor, mental and physical, than at any previous time since I left Africa. May God bless you in all your researches in his great laboratory, and make you his agent in restoring thousands to health.

Rev. A. A. CONSTANTINE.

Weedsport, N. Y

Prof. Hamilton.—Dear Sir—I have used three-quarters of the package of medicine you sent me, and thanks to that wise Providence, whom all should bless, for the great good they have done me. My disease was of the liver and digestive organs; and had I not received timely aid from your treatment, my difficulties would have terminated in liver consumption, and I should have been incurable. I had been failing fast for the last five months previous to applying to you, although under medical treatment of three of the most skillful physicians in this State. Many persons are daily visiting me to see and hear of your miraculous skill, remarking that "Professor Hamilton must be possessed of more than a doctor's power to cure you."—Some look at me with great amazement after noticing the great change that has taken place in my condition and appearance in so short a time. I ride or walk every day, and can walk a mile. Truly yours,

Mrs. D. C. HOWE.

STRONGLY CORROBORATED.

TO THE AFFLICTED EVERYWHERE!

No. 113 Harrison Street,
Brooklyn, N. Y., January 20, 1869.

During my labors in publishing and editing a newspaper for many years in this city, and also in the performance of my duties as a clergyman in this and other cities, I have become thoroughly and intimately acquainted with R. Leonidas Hamilton, M. D., the justly celebrated Liver, Lung and Blood Physician of this city, who is located at No. 546 Broadway. The doctor was for many years a regular practicing physician, and also for some years a professor in one of our best medical schools, and during such extensive experience, he fully realized the inadequacy of the ordinary treatment made use of in all chronic diseases, more especially that class of troubles arising from deranged functions of the Liver and digestive organs. He at once set himself about the study of the class of diseases, determined to make them a specialty. Laying the vegetable world under tribute, he has made discoveries and compounded specifics on sound philosophical principles, which have made the most wonderful cures in the annals of medicine. Liver, Blood, Lung and Nervous diseases are now virtually under his full control, and yield to the magic, subtle power of his remedies. I have myself seen numbers of those who have been saved from the hand of death by his power, when the unfortunate sufferers seemed doomed to an early grave, and all other treatment was of no avail. In addition to what I can vouch for personally, I have ample evidence from other clergymen, physicians and eminent men of the highest character, who have also been saved by this wonderful treatment, and will speak in the highest praise and gratitude of Dr. Hamilton as a physician and a gentleman of honor and integrity. It is but simply stating the positive truth when I say that it is well known throughout this country that where his works are known and the fruit of his skill have been witnessed, he is highly esteemed by the people as the most eminent and remarkable physician in the treatment of chronic diseases of the age. As the result of a long personal and familiar acquaintance with Prof. Hamilton and his unparalleled success as a professional man of the highest order, I frankly express the hope that diseased humanity in every part of our land may avail themselves

of his most remarkable skill, and thus share the noble blessings so kindly and freely bestowed upon all.

Most respectfully, REV. W. B. JACOBS.

THE WORK GOES BRAVELY ON!

ANOTHER CLERGYMAN CURED!!

The eminent divine, Rev. J. W. Hinkley, of Athens, Maine, writes:

"My health has so far improved from the effects of your treatment that I am able to resume my pastorship. Had it not been for your medicine I should not be living now. To you, with God's blessing, do I owe my worldly existence. I am a living exponent of the worth of your matchless remedies, and I shall hereafter deem it a part of my religious duty to recommend all suffering with diseases of the Liver or Lungs to speedily apply to you. May God's blessing attend your worthy efforts for the relief of diseased and suffering humanity."

ANOTHER CLERGYMAN HEALED!

BOONTON, N. J.

R. L. HAMILTON, M. D.—Dear Sir—It is with pleasure that I communicate the result of the use of your medicines. When I first visited your office in New York, I could scarcely walk into the office without exhaustion. With all your prestige as a successful physician, I had but little hope that you could cure me. There was nothing strange in this. Four years and four months had passed away, but during that period I had suffered constantly with chronic diarrhœa and piles. I had some of the best physicians, and used everything I heard of that I could procure, but all in vain. Why should I think that you could do me more good than others? But, sir, justice and gratitude compel me to say that after the use of your medicines the result was a complete cure. I cannot expect to be freed from liabilities to attacks of disease any more than other men. I wish I had the voice of seven thunders, and could assemble the sick in the world, I would direct them to you, sir, as one fully competent to heal, and whose generous and noble nature would not allow exorbitant charges.

Yours truly, REV. GEORGE H. JONES.

A CLERGYMAN CURED OF RHEUMATISM.

POINTSVILLE, N. J.

PROF. R. L. HAMILTON—Dear Sir—I have purposely delayed writing in order to give you the results of your remedies. The medicines came to hand in due time, and I commenced using them as instructed, and have persevered. For the first week I could not see much change; the second week there seemed to be a giving away of the disease; and at the end of the third week a decided change for the better was manifest. I am now able to walk about with ease and comfort. I send you my sincere and many thanks, and pray that God may bless and preserve your life for many years. I feel that under the blessing of Divine Providence, you have done great things for me. Yours truly,

REV. ISAAC HUGG.

A CLERGYMAN'S WIFE!

Mrs. Rev. Geo. C. Haddock, of Ripen, Wis., writes:

"The remedies you sent me last spring worked like a charm throughout my entire system. I do not believe I should have lived until the present time had I not used your medicine. It is my sincere prayer that God may bless and spare you many long years to minister to the physical being of diseased humanity. All that I can do to extend your field of labor shall be done earnestly and willingly."

A HARD CASE!

Spine, Kidneys, Liver and Bladder diseased.

"DR. HAMILTON.—My best friend and brother—You have saved my life! This is not only certain to my own apprehension, but all my personal friends who have known my sufferings so long and so well, join in this opinion. From a spinal disease I have suffered for years what no tongue can tell. Besides this disease, I have been afflicted with aggravated affections of the liver and spleen; and my kidneys and bladder have been so diseased that other physicians have tried their skill in vain. I have lain in hospitals for months, and I have again and again consulted the most eminent physicians and surgeons in Boston, New York, Charleston, Cincinnati, Chicago, and other cities, without regard to expense. They were men of learning and great reputation, but in all honesty I must say that they did me no good. After trying thoroughly their skill, they have had to acknowledge my case as complicated and hopeless—'incurable,' as they have termed it. In nine weeks you have cured me—made me a new man. I had no hope, nor had my friends; but I am now right; I am well, and rejoice that, after eighteen years of suffering, I know what it is to enjoy the blessed, joyous feeling of health, vigor, life, freedom from pain, and with the power to work, think, and enjoy myself. I offer you this testimonial gladly; I hope it will lead hundreds to you. I know that whereof I here testify; and I shall ever take the greatest satisfaction in recommending you to all the afflicted, for to you I owe my life."

Your true friend and brother,

A. G. BUTTERFIELD.

Monroe street, between Bedford and Franklin avenues, Brooklyn, N. Y.

RHEUMATISM CURED.

William McNeilis, Eagle Rock, Venango county, Pennsylvania, writes:

"I return my sincere thanks for having permanently cured me of rheumatism, after having suffered severely for about seven years. When I had doctored with other doctors and tried all the patent medicines that I could get with no avail, and was so bad that I could hardly get out of my house, and part of the time not able to get out of my bed, as I was affected in nearly every joint, I thought that I would try you as a last resort. To my great joy, in less than three weeks, I was able to get out and jump with the most active man in the place. In one month I was perfectly cured, and had gained seventeen pounds; and I never had better health in my life than I have enjoyed for the last six months. May God bless you and your miraculous remedies."

CASES OF ASTHMA.

AFTON, N. Y.

To Prof. R. L. Hamilton:

Dear Doctor: It was between six and seven years I was afflicted with that dire malady, the Asthma, and after employing the best medical skill in the country and taking all the patent medicines recommended, without avail or any permanent relief, I began to think there was no cure for it, but noticing an advertisement of yours in one of the New York papers it was with the greatest reluctance I wrote you, as I then expected it would not benefit me, and would be worse than useless. In that I was greatly disappointed, as I had not taken the medicine more than two weeks before I was able to do light work on the farm. Before this, I could not attend to any business, being completely prostrated, and after taking two packages considered myself perfectly cured and my health fully re-established, the bronchial difficulties and all bad symptoms being entirely removed. All this is attributable to your unrivalled medicine, under the Divine sanction, which I trust, with me, will ever be remembered with gratitude. I cannot close this communication without expression of my heartfelt gratitude and thanks for the timely aid you rendered my daughter in Consumption. The efficiency of the medicine in her case has been truly miraculous. That hectic cough, flush on her cheek, with the other consumptive symptoms have entirely left her, and now, after a period of five months, she is enjoying good health, and is quite robust, so much that she has engaged to teach school this summer. You are at liberty to show this letter to any similarly afflicted, or publish it, as you think proper. Any letter of inquiry I will cheerfully answer. I am, dear Doctor, with many thanks,

Your humble servant, JOSEPH LITTLE.

REPORT FROM A CASE OF ASTHMA.

Mrs. Sessie Smith, of Candia Village, Rockingham county, N. H., writes:

"I received your medicine, and have used the most of it. My cough is better, I breathe freely, and can sleep well at nights. I have every confidence in your skill, and hope soon to be permanently restored."

IMPORTANT CASE OF EPILEPTIC FITS.

Read the following evidence of what my treatment has done in a case of this disease, hitherto considered incurable:

BUCKARY, Ill.

Dr. HAMILTON—My wife was afflicted with fits for ten years, attended with great spinal and nervous debility. She doctored with several physicians, but all to no purpose. I read one of your circulars and was so impressed with your new and simple theory of disease that I determined to try your remedies. Every one in the neighborhood cried "humbug;" but thank God, failed to dissuade us from our purpose. As you know, we sent for some of your remedies, which, with the help of God, have

completely and permanently cured her. She has not had a fit since; her back is strong, and her nervous vitality and strength returned. As every attack she had was severer than the one previous, it is reasonable to suppose she could not have lived long but for the timely interference of your wonderful skill. To God be the praise; for so speedily and miraculously have your remedies worked that I can but recognise you as an instrument of Divine power in rescuing my dear companion from a terrible death. JOHN S. SHARP.

CONSUMPTION CAN BE CURED.

DONE MORE GOOD THAN ALL THE PHYSICIANS.

Mrs. Catharine Anderson, of Southampton, Bucks county, Pa., writes:

"Your medicines have worked wonders in my case. Previous to taking your remedies I have doctored with three different physicians, all of whom pronounced my disease consumption, and incurable. Cod liver oil and different kinds of syrups were taken in great quantities, but to no purpose. I was confined to my bed for six months, coughed continually, and raised great quantities of matter. My throat was swelled out nearly even with my chin, and my sufferings were most intense. I had not taken your medicine more than one week before I found great relief; my cough was much loosened, and I breathe with greater freedom and ease. My appetite was better, and I felt that a new life had opened before me. I owe my very existence to your great skill and invaluable remedies."

WHY WILL THE AFFLICTED DOUBT WHEN SO MANY ARE SAVED?

Mr. Edwin P. Cady, of Lyons, N. Y., writes:

"I deem it my duty to write to you and let you know the success of your medicines in my wife's case. She had not rested, day or night, for three years, and some of the time I did not expect her to live through the night. When you wrote you could cure her, I did not have much faith, but thought it my duty to use all means in my power to save her. She used your medicines as directed, and the result is, that she is now well, and doing the work for five in the family. From such marvellous success, I have unbounded confidence in your ability to cure chronic diseases, and now beg leave to lay my own case before you."

HOW GRATEFUL THE RESTORED!

FRENCHTOWN, Hunterdon Co., N. J.

Dear Sir—The medicines I received from you I have taken as directed, and I cannot express my gratitude from the great benefit derived from their use. My disease is entirely, and I believe permanently, removed. I deem it providential that I was directed to you, after all other means had failed. Depend on it, I shall do all in my power to direct poor, diseased mortals to a source of relief, which, from experience, I know to be a true one. I thank you, my dear Doctor, for your faithful attention, and you shall always have my best wishes for your success in relieving the suffering of your fellow-creatures.

Most respectfully, MRS. CHARLES BURKIT.

IN HIS MERCY HE SAVES THE AFFLICTED.

Mr. John Lewis of Zollarsville, Washington county, Pa., writes:

"The medicines you sent me last spring acted like a charm. It relieved me very soon of a deranged state of the liver, stomach, and bowels. The marked peculiarity of your remedies is, while they act directly and thoroughly on the diseased organs, they do not depress or debilitate the system like other Liver Remedies I have used. I consider you fully master of your profession; and from your open, fair way of dealing with me, I deem you an upright, conscientious man, as well as accomplished physician."

ANOTHER CASE OF EPILEPTIC FITS CURED.

Mrs. Lavinia Myers, of Toronto, Vermillion county, Ind., writes:

"I have taken two-thirds of the medicine you sent me, and have no fits or spams since I commenced its use. The effect of your medicines seem truly wonderful, I feel, too, thank God, that I have been relieved of such a terrifying disease. I send for medicine to prevent the possibility of a relapse, although I now feel perfectly well."

LIVER DISEASE OF TEN YEARS' STANDING CURED.

Mr. George W. Crocker, of South Valley, Otsego county, N. Y., writes:

"I have used a portion of the medicine prepared for me, and am much gratified in informing you that I have gained twenty per cent. in health. It is surprising to me, as I had not seen a well day for ten years previous to applying to you. I consider your remedies truly wonderful."

CURED AFTER "LONG YEARS."

DANDRIDGE, Jefferson County, Tenn.

Dear Doctor—It is with great happiness that I take my pen in hand to inform you of the good effects of your truly valuable medicine. I really believe that I would long ere this have been in my grave had it not been for your timely aid. God only knows the long years of suffering I endured previous to adopting your treatment; and, now that I am free from pain, it seems as though a miracle had been wrought. I have recommended several to apply to you, and you may rest assured I will do all I can for you. May God aid you in your praiseworthy efforts in relieving poor diseased mortals. Ever gratefully yours,

DICY ELLISON.

A VOICE FROM WAYNE COUNTY, PA.

Mr. John Benney, of Homesdale, writes:

"It would be injustice to you as well as to myself not to acknowledge what your remedies have done for me. They have done more for me than I ever expected. I began to improve in a week, and when I had taken all the medicines I felt like a new man. All of my neighbors told me how much better I was looking. I have not felt as well for five years as I now do."

CASE OF AGGRAVATED STOMACH DIFFICULTY.

Mrs. Mary A. Whitford, of East Florence, N. Y., writes:

"Prof. Hamilton—My Dear Sir: Your medicines were all promptly received and taken according to directions. Louise is a well girl again I never expected to see her so well as she is. She can do a good day's work, and can walk a mile to Sabbath-school and meeting. She sends her most sincere thanks, and says you have done a 'great thing' for her. You have restored her sinking health in a very short time. We shall be grateful to you as long as we live."

THOSE AWFUL FITS CURED!

From P. C. Howard, of Hot Creek, Virginia:

"Your package was received and the medicine taken as directed, and I am happy to be able to inform you that it has had the desired effect. My general health is much better than it has been for several years. I have had no spasm or fits since I commenced taking your medicine."

LIVERS AND LUNGS BADLY DISEASED!

WESTERN CITY, Iowa.

"Dr. Hamilton—Dear Friend: I feel that it is due to you, as well as to all those who are afflicted with disease, to express my gratitude to you for the great benefit which I have received from the use of your medicines. For many months I had a pain in my shoulders and side, soreness across the chest, difficulty of breathing, hacking cough, sore throat, ringing and roaring in my ears. I was very nervous, and my slumbers were disturbed by frightful dreams, and it would seem almost incredible if I were to attempt to describe the objects which seemed to be before me when wide awake. Sleep was no rest to me. I had no ambition, and I had about come to the conclusion that unless I soon got relief my earthly career would soon be ended. I kept growing worse until I was confined to my bed all the time. My husband induced me to write to you, and your remedies came duly to hand, and in a very short time I began to recover, and am now comparatively well. I thank you, doctor, for your faithful attention, and shall always recommend you to the afflicted.

"With much respect, MARY E. LYON.

ANOTHER APPEAL TO THE INCREDULOUS!

So well knowing the general customs of the American people to denounce all advertising Physicians as "Humbug," without knowing anything at all in regard to their merits, in addition to the numerous and wonderful testimonials from some of the thousands who have been cured by me, I publish below the names and addresses of a few reliable persons who know me well as a man of integrity and a reliable physician. Any one desiring can call and consult any of them, or address them by letter on the subject:

Benjamin Perry, Mattewan, N. Y.; Alexander Hughes,

Poughkeepsie, N. Y.; John Proper, Waterford, N. Y.' Thomas B. Slingerland, Rome, N. Y.; Timothy Cronin Attorney-at-Law, No. 161 Broadway, New York City: J. M. Emerson, No. 63 Nassau street, New York City; Norval M. White, Clerk in New City Post Office; Dr. Palmer, No. 78 Fourth avenue, New York City; Wm. B. Betts, Norwalk, Conn; Edward Burlingame, Troy, N. Y; Harvey Wilcox, Ridge Mills, N. Y.; the Hon. R. G. McCreary, Gettysburg, Pa.; G. W. Lord, Attorney-at-Law, No. 55 Liberty street, New York City; S. S. Parker, Alabama, N. Y.; Charles Van Benthuysen & Sons, State Printers, Albany, N. Y.; Joseph Anderson, No. 81 Adams street, Brooklyn, N. Y.; Riley Merrill, Sandford, N. Y.; Daniel Edwards, Otsego, N. Y.; Martin Decker, Roxbury, N. Y.; Thomas Colby, Moresville, N. Y; Thomas Fitch, M. D., Pruttsville, N. Y.; A. B. Sands & Co., Druggists, No. 141 William street, New York City; Wm. Youngblood, No. 83 Nassau street, New York City; Renatus Bachmar, Chemist, No. 225 Elm street, New York City; John E. Van Etten, Attorney-at-Law, Kingston, N. Y.; Oscar Hamilton, Sanford, N. Y.; Henry Biers, Chicago, Ill.; Coolidge & Adams, Druggists, No. 108 John street, N. Y; J. Tillitson, Clerk in the New York Post Office; E. Harmon, Gettysburg, Penna.

REMEMBER ONE THING!!!

READER: Do not think that you cannot be cured because you have tried other remedies. Let it be distinctly understood that many of my remedies are known only to myself, for many of them are discoveries of my own, and are compounded according to my own reasoning and extensive experience with the sick.

All sick persons must remember that if they wish to be put upon a course of treatment which will cure them they can write to me their present symptoms plainly; or patients can mark the symptoms they have, as above published. I can, in every instance, prescribe for them just as well as though I saw them, for I have constantly thousands under my treatment in various parts of the world, whom I never see, all of whom I cure as speedily and safely as those I see in person; in fact, some of the best cures ever made I have perfected in cases I never saw.

All I wish to know in any case is the most prominent symptoms, and they can just as well be written as told to a physician, and he can treat the case as easily as though the patient were present.

Please write to me at once, all ye afflicted, and I will answer you promptly, and to the point, and state fully the facts as they appear, and whether you can or not be saved. Do not give up, even though your family physician has done you no good, for I have saved thousands after all hope had fled and the grave was near. The wisdom and goodness of a just Providence will not withhold the noble means for the salvation and happiness of his suffering and erring children. Also, if you expect a full and specific reply to your letter, always enclose ten cents—postage must be paid in advance.

NOTICE.

Prof. Hamilton has now ready a pamphlet containing a biographical sketch of his remarkable life, with a lithograph picture of himself. This book also contains a complete history of Prof. H.'s wonderful cures—his theory of diseases and the only natural, safe, and possitive treatment for all chronic diseases—a valuable work for everybody, SENT FREE.

Have no hesitancy in writing to the Doctor, and state to him your case in full, and he will deal honestly and promptly with you. All letters to him must be addressed thus:

R. Leonidas Hamilton, M. D.,

No. 546 BROADWAY,

Care of Post Office Box, No. 4,952, New York.

The number of the Post Office Box must be put on each letter to insure safety. oct-1t

EARLY ROSE POTATOES,

Of our own growth, and warranted genuine—from one pound to 100 barrels. Inducements offered, if taken this fall.

Prices given on application.

OTTO & ACHELIS,

oct-2t Westchester, Pa.

Large Stock of Early Rose Potatoes,

Stands ahead of all others for Earliness, Productiveness, and Good Quality. Yielded for me this season over 300 bushels per acre, with common field culture; were ripe early and of the very best quality. Read what my wholesale commission merchant says of it:

"This is to certify that I have sold several hundred baskets of the Early Rose Potato this summer to consumers of Philadelphia, at from three to four times the price of any other varieties of equal size."

A. S. DANIELS,

Stalls 55 to 58, Dock street Market.

Also, Good Stock of

Blackberries, Raspberries, Strawberries, Currants, &c., &c.,

All for sale low; send for Prices to

JOHN S. COLLINS,

oct-1t Moorestown, N. J.

Specialties! 1869.

Standard PEACHES,
Gold. Df. PEACHES,
Cherries,
Currants,
Gooseberries.

PLUM TREES 4 to 5 feet, one year, branched, per 100, $15; per 1000, $125.

PLUM SEEDLINGS, $4 to $15 per 1000, owing to quality and quantity.

Complete assortment of TREES, PLANTS, VINES, SHRUBS, SEEDLINGS, STOCKS, ROOT GRAFTS, etc., etc.

Send stamp for Price-List; Ten Cents for Catalogues.

oct-1t Address, W. F. HEIKES Dayton, O.

A CARD.

A Clergyman, while residing in South America as missionary, discovered a safe and simple remedy for the Cure of Nervous Weakness, Early Decay, Disease of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge.*

Address

JOSEPH T. INMAN,

Station D, Bible House,

oct-6t *New-York City.*

PRINDLE'S *Non-Explosive Steamer and Caldron*, Cooks, Heats, Steams, Boils, Distils, &c., for all classes, and is especially adapted to

Cooking for Stock.

It is the only Safe, Cheap and Portable Apparatus in Market. Four sizes kept constantly on hand.

N. B. Send Stamp for Illustrated Circular, giving details, advantages of COOKED FOOD FOR STOCK, Price List, where sold, &c.

D. R. PRINDLE,

oct 1t East Bethany, N. York.

ESTABLISHED 1843.

E. WHITMAN & SONS,

MANUFACTURERS OF

AGRICULTURAL IMPLEMENTS

AND DEALERS IN

SEEDS, FERTILIZERS,

AND

Agricultural Hardware,

Nos. 22 *and* 24 *SOUTH CALVERT STREET,*

CORNER MERCER,

oct tf BALTIMORE, MD.

E. WHITMAN & SONS,

MANUFACTURERS OF

ANDREW COE'S

Super Phosphate of Lime,

Nos. 22 *and* 24 *South Calvert street,*

oct-tf BALTIMORE, MD.

THE

Village Nurseries.

A large stock of Peach Trees, Wilson's Early Blackberry, Strawberry, and other small Fruit Plants, and Nursery Stock.

My Peach Trees are all of the best market varieties and of superior quality, warranted to give satisfaction, and to be true to name.

Packing done in the very best manner, free of all charges. Those wanting Peach Trees for orchard planting or other stock would do well to give me a call, Also a limited stock, of the best Late Peach in cultivation—

THE SALWAY.

For description and price, and prices of other stock, send for a circular. All those who want Trees or Plants, are invited to call and see my stock before buying. Having had 11 years' experience with the late Isaac Pullen, I can guarantee satisfaction to all.

Nursery situated on C. & A. R. R., one hour's ride from Philadelphia.

Address,

CHAS. BLACK,

oct-1t Hightstown, N. J.

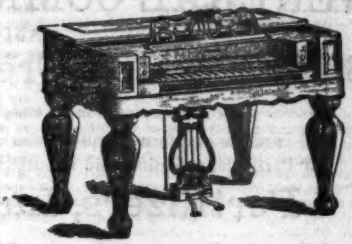
THE CLIMAX KNITTER!!

This is, without question, the best family knitting-machine ever invented. It is small, light, neat, simple of construction, durable, works very rapidly, *has but one needle*, makes the old-fashioned knitting-needle stitch (and two others,) with light or heavy, single or double yarn, *sets up and finishes its own work*, and needs no weights. It knits close or loose textures, hollow or flat web, large or small fabrics,—anything that can be knit by hand, and in a much better manner. A child can readily operate it, and can learn to do so much sooner than to knit with ordinary needles. There is nothing to be done but to thread a needle and turn a crank, until the heel is reached, which is formed to perfection, with little trouble and no sewing: the same is the case with the toe.

The price of this knitter is but $25 00, which places it within the reach of every family. It is destined to be very popular, and we can offer agents, general and special, exceedingly liberal terms for engaging in its sale. Send for circulars.

Address ESSICK KNITTING MACHINE CO., S W. cor. 11th and Chestnut Streets, Philadelphia, Pa. oct-3t

STEINWAY & SONS' PIANO FORTES,



MASON & HAMLIN'S CABINET ORGANS,

HAINES BROTHERS' PIANO FORTES,

CHAS. S. BENTEEN,

No. 80 W. Fayette street, and

oct-6t No. 10 N. Charles st., Baltimore, Md.

Belmont Stock Farm.

I am breeding thorough bred Horses, the Imported Percheron Norman Horses, and the Black Hawk Branch of the Morgan Stock, for sale. Also Pure bred Short Horn Cattle, Chester White and Albemarle Improved Swine, (the latter a cross of Woburn and Chester Whites,) and Bramah Fowls for sale.

S. W. FICKLIN,

oct-1y near Charlottesville, Va.

20 Select Varieties of Apple Trees.

Two years old, $18 per 100. One year old $14 per 100. Peach, Pear, Plum, Apricot, and Nectarine Trees, Grape Vines, &c.

For Catalogue Address,

WM. K. NELSON,

oct-1t Augusta, Ga.

75,000 Peach Trees,

Leading varieties of unsurpassed quality.

Purchasers are invited to call and see them on the ground, near Upper Station, Marietta.

Early Rose Potatoes in quantity at reasonable figures. Send for price list, to

N. M. ENGLE,

oct-1t Marietta, Pa.

EDW'D J. EVANS & CO.,

NURSERYMEN AND SEEDSMEN,

YORK, PENNA.,

Offer the present season a full and complete stock, in both NURSERY and SEED DEPARTMENTS.

PRICED LIST OF FRUIT and ORNAMENTAL TREES and PLANTS, SMALL FRUITS, &c., *now issued, and mailed* to any address; also

DESCRIPTIVE PRICED LIST OF CHOICE SEED WHEATS, OATS, POTATOES, &c.

ILLUSTRATED CATALOGUE OF GARDEN AND FLOWER SEEDS FOR 1870, *will be duly mailed our customers (and others desiring it,) about January 1st, next.*

Nurserymen, Seedsmen, and Dealers supplied at wholesale prices. oct-6t

FRANK LEWIS,

GENERAL COMMISSION MERCHANT

AND AGENT FOR

Buchan & Co's Cresylic & Carbolic Soaps,

Destructive to insect and fungus life, and perfect disinfectants.

Will purchase and forward all articles required by farmers *without charge of commission.*

☞ Particular attention paid to purchase of

Fertilizers, Implements, Seed, &c.

oct-tf P. O. Box 1085. 57 S. Calvert street, Baltimore, Md.

(KEEP FOR REFERENCE.)

DIRECTIONS FOR MEASURING.

COAT.

Length.....from 1 to 2 and 3
Arm.....4 to 5 and 6
Around the Breast under the Coat.....7
Around the Waist under the Coat.....8
Height ft in.
Weight lbs.

VEST.

Length, from 1 to 13, with last two Coat Measures.

PANTALOONS.

Outside Seam from top of Waistband..10
Inside Leg Seam from Crotch.....12
Around the Waist under the Coat.....8
Around the Hips under the Coat.....14

SHIRTS.

Around the Neck under Cravat, 16, with all the Coat Measures.

Gentlemen at a distance can order their Clothing by the above system of measurement, which can be taken by any one, whether a tailor or not. All orders will have prompt and careful attention, and be filled with strict reference to the well-earned reputation of the House for TASTEFUL and SUBSTANTIAL Clothing. Prices guaranteed to be lower than Merchant Tailoring Establishments generally. Samples of Materials, with prices sent by mail, when desired.

NOAH WALKER & CO.

Wholesale & Retail Clothiers,

Washington Building,

Baltimore St. bet. Calvert and Light Sts.

Opposite Adams' Express Office,

BALTIMORE, MD.

A FINE STOCK OF

GENTLEMEN'S FURNISHING GOODS.

sep-tf

WANTED—AGENTS—$75 to $200 per month, everywhere, male and female, to introduce the GENUINE IMPROVED COMMON SENSE FAMILY SEWING MACHINE. This Machine will stitch, hem, fell, tuck, quilt, cord, bind, braid and embroider in a most superior manner. Price only $18. Fully warranted for five years. We will pay $1000 for any machine that will sew a stronger, more beautiful, or more elastic seam than ours. It makes the "Elastic Lock Stitch." Every second stitch can be cut, and still the cloth cannot be pulled apart without tearing it. We pay Agents from $75 to $200 per month and expenses, or a commission from which twice that amount can be made. Address BECOMB & CO., PITTSBURGH, PA.; BOSTON, MASS., or ST. LOUIS, MO.

CAUTION.—Do not be imposed upon by other parties palming off worthless cast-iron machines, under the same name or otherwise. Ours is the only genuine and really practical cheap machine manufactured. oct-3t

SOLD AT THE Excelsior Stove and Tin Ware House

92 GAY STREET, BALTIMORE, Md.

CHARLES FISHER,

Manufacturer and Dealer in STOVES, TIN-WARE AND HOUSEKEEPING ARTICLES, 92 N. GAY STREET, opposite Harrison, Baltimore, offer a large stock for sale at REDUCED PRICES. Please call before purchasing. oct-3t

SEED.

Pure Sorghum Seed at 25 cents per lb.
Fine Seed Wheat at $2.50 per bushel.
Deliverable at "Oakland" Farm or shipped in bags upon receipt of cash price.
Address ROBERT SOUTTER,
oct 1t Kittrel Springs, Granville Co., N. C.

WANTED—AGENTS—TO SELL THE AMERICAN KNITTING MACHINE. Price $5. The simplest, cheapest and best Knitting Machine ever invented. Will knit 20,000 stitches per minute. Liberal inducements to Agents. Address AMERICAN KNITTING MACHINE CO., Boston, Mass., or St. Louis, Mo. oct 3t

General Nursery Stock,

IN ALL ITS LEADING BRANCHES, is offered by OTTO & ACHELIS, Westchester, Pa.
Send for our new Price List. oct-2t

The Purest, Best and Cheapest

SOLD BY ALL GROCERS.
aug-1y

$100 to $250 per Month guaranteed. Sure pay. Salaries paid weekly to Agents everywhere selling our *Patent Everlasting White Wire Clothes Lines*. Call at, or write for particulars to, the Girard Wire Mills, 261 North Third st., Philadelphia, Pa.
oct-1t

Week's Wheat (White.)

Early Ripening, Hardy

AND VERY PRODUCTIVE!

We offer prime seed of this very early White Wheat, which we consider the most valuable variety of recent introduction, combining the hardiness and early maturity of the Mediterranean with the high flavoring quality of the best White Wheats. Its straw is stiff, protecting it against the Fly, and it succeeds well on land of moderate fertility, yielding from 25 to 45 bushels, according to soil and season.

PRICES:

1 bushel (sack included)	.....		$4.00
2 do	do	do	7.50
10 do	sacks	do	36.00

We also offer a fine supply of FRENCH RED AND WHITE *CHAFF*, EXTRA EARLY JERSEY, ROCHESTER RED CHAFF, LANCASTER RED CHAFF, by the bushel and sack, and a number of other varieties in limited quantity.

Descriptive Priced Circular mailed FREE to applicants.
EDW'D J. EVANS & CO.,
Nurserymen and Seedsmen,
aug-3t York, Penna.

The Episcopal High School,

Established in 1839,

Beautifully and healthfully situated three miles west of Alexandria, Va., fits boys for business or college. Pupils received from the age of nine. Deductions made for ministers and for persons sending two pupils. For circulars address the Principal.
aug-3t REV. WM. F. GARDNER.

FRANK LEWIS,

General Commission Merchant

For sale of Grain, Cotton, Tobacco and Country Produce, and for purchase of all articles required by Farmers.

Agent for Buchan & Co's

CRESYLIC AND CARBOLIC COMPOUNDS;

destructive of insect and fungus life and perfect disinfectants.
aug-tf No. 4 SOUTH ST., Baltimore, Md.

FERTILIZERS.

Fine Ground Bones, Poudrette, Baynes' Fertiliser, GUANOS, PHOSPHATES, GROUND PLASTER, LIME, And all kinds of FERTILIZERS, for sale by
THOS. BAYNES,
No. 139 McElderry's Wharf,
Foot of Marsh Market,
feb-tf BALTIMORE, MD

WM. CRICHTON & SON'S
Ammoniated Soluble
SUPER-PHOSPHATE OF LIME.

Containing 50 PER CENT. of BONE PHOSPHATES—of which 12 per cent. is immediately Soluble in Water—3 per cent. of Ammonia, 3 per cent. of Potash, Sulphuric Acid, Magnesia, &c., &c.

—o—

Furnishing the Essential Elements of WHEAT, CORN, TOBACCO, COTTON, and of all Cereals which are removed from the soil in every crop.

—o—

TO AGRICULTURISTS.

We have established a manufactory in this city upon an extensive scale, with the appliances of steam and with every recent improvement in machinery for grinding, mixing and thoroughly combining the various chemical constituents now well ascertained as forming the elements of a first-class fertilizer, and absolutely required to build up the truly vegetable part of the plant, and restore to the soil the elements of direct "PLANT FOOD," which previous crops may have drawn from it, and which can be relied upon for uniformity, containing the valuable properties claimed for it, and at a LESS PRICE than any *other similar manure offered in this market.*

—o—

Extracts from Letters from parties who have used this Fertilizer.

From Rev. S. A. Gayley.
COLORA, Cecil Co., Md., June 20, 1869.

Messrs. Wm. Crichton & Son—Dear Sirs: Your "Ammoniated Soluble Phosphate" I regard as the best manure I have ever used. I dressed a lot of corn with it in the hill, putting one bag on *two and one-eighth* acres by actual measurement, [you will see that the allowance to each hill was very small.] *It has acted like a charm.* That lot of corn is the best in the neighborhood of any planted at the same time.

From what it has done for me I give it the preference to any I have ever tried.

Yours respectfully, S. A. GAYLEY.

OAKVILLE, St. Mary's Co., Md., July 12, 1869.

"I applied your 'Ammoniated Super-Phosphate' on wheat and oats—top dressed the wheat.

The crops, where it was used, show a decided improvement, and present at this day a remarkably fine appearance.

I am perfectly satisfied with its effects, and its comparatively low price will induce me to use it again next season." Yours truly, W. O. REEDER.

ANNAPOLIS JUNCTION, Md., July 31, 1869.

"I used the 'Ammoniated Super-Phosphate,' manufactured by you, with the greatest success on my wheat and vegetable garden.

I planted corn with it last May, and from present appearances it will not be surpassed by any in my county. I prefer your combination of Plant Food to Peruvian Guano, even at same cost."

A. P. GORMAN.

PAW PAW, Morgan Co., W. Va., June 27, 1869.

"It gives me great pleasure to let you know that my Wheat, upon which I applied your fertilizer, last fall, is very fine. I used it entirely on corn stubble, and it is better than any I ever had or ever saw. It will, I am certain, yield over 20 bushels per acre.

I applied it on oats and corn in the spring, using about 200 pounds per acre on each, (stiff clay land.) The Oats will double, I think, while the corn I never saw anything to equal it.

I planted about 10th May, using a handful to two hills of corn, and after it started it seemed incredible to see it grow. It is now waist high, while on a *highly* manured piece of land by its side it is not over six inches."

Yours respectfully, N. N. CLABAUGH.

CENTER CROSS, Essex Co., Va., July 27, 1869.

"In relation to your Guano, I take pleasure in stating that I regard it as a valuable fertilizer. I used about two hundred pounds per acre on Oats, which, notwithstanding the excessive drought, produced 25 to 30 bushels per acre.

The corn upon which this fertilizer was applied at the same rate looks stout, vigorous and promising, and the 'oldest inhabitant' does not claim to have ever seen a more flourishing sweet potato and watermelon patch than I have this season, from the use of a handful of this manure to the hill." Truly yours,

R. P. W. FAUNTLEROY.

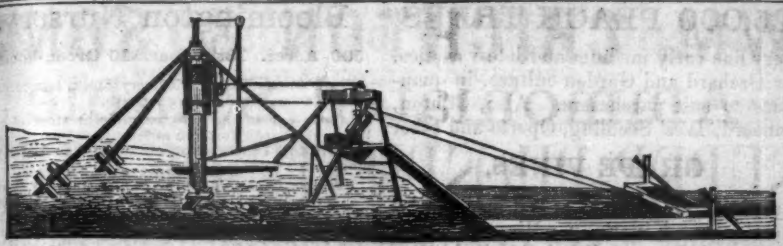
—o—

Put up in Strong Bags, 167 Pounds in each. Price $50 per Ton.

☞ *Send for Pamphlets, containing full directions and Certificates.*

WM. CRICHTON & SON, Sole Manufacturers,
WOOD STREET, BOWLY'S WHARF,
(Opposite Corn Exchange,) BALTIMORE.

sep-2t



BRYAN'S AGRICULTURAL MARL AND MUCK LIFTER,

A STRONG AND DURABLE MACHINE, WHICH CAN BE WORKED BY ORDINARY FARM HANDS.

To Raise the Deposit from the Bottom of Ravines, Coves, Creeks, Rivers or other places inaccessible to teams.

It works with facility 170 feet from the capstan; will lift any marl clean of rocks, carting 125 to 150 loads a day.

The late M. Tilghman Goldsborough, Esq., of Talbot Co., Md., writing under date of 20th January, 1860, says in regard to this machine:

"I had it worked in the presence of several gentlemen, just to see the 'modus operandi,' and to be satisfied of the power and efficiency of the machine; and two mules of medium size appeared to have sufficient power to deliver on the shore a bucket full, equivalent to a cart load, in about six minutes. The mud at that trial was dropped on the creek bank. The mules were awkward and shy of the strangers present, and the hands were awkward at the novel occupation. We brought on shore about fifteen cart loads, and I feel entirely confident that I shall not be disappointed in the machine when it is put at full and regular work. Some of our farmers who have taken advantage of low tides and ice in the creeks to obtain small quantities of this mud, think it a very valuable manure; indeed that opinion appears to be universal here, but as the machine is of recent invention, and only a few have been erected, there has not been time to test the actual value of the mud as a fertiliser."

Having tested the machine, he writes under date of 27th July, 1860:

"Having successfully tested the working of your Mud Lifter, I have the further pleasure of testifying to the efficacy of the mud. You may remember that in December last, when the machine was first erected, we lifted some twenty loads of mud with it from the bottom of a salt water cove. This was acted on by the frost, and this spring was put on a point of thin land, in my corn field, where I never have had a vigorous crop of any sort, but now the land on which the mud was applied has a dark green, and vigorous growth of corn, entirely superior to the adjoining land, although the land undressed with mud is rather better, and both had the same dressing of shell marl. In this case the mud has had most unmistakably a profitable effect. The land is a yellow clay loam."

For particulars, address

BRYAN & BROTHER,

Care of "American Farmer," Baltimore, Md.

july-

CANFIELD, BRO. & CO.,

229 *Baltimore st., Baltimore,*

IMPORTERS AND DEALERS IN

FINE WATCHES, DIAMONDS and FINE JEWELRY,

STERLING SILVER WARE,

TRIPLE SILVER PLATED WARE,

A full stock, Spoons and Forks, Cutlery, Clocks, Bronzes and Fancy Goods. Agents for Waltham American WATCHES, in Gold and Silver Cases. Watches Repaired. july-6t

---

Pure Bred Alderney Calves and Southdown BUCKS and Buck Lambs, for sale by

J. D. RICHARDSON,

Buckeystown,

sep-2t Frederick Co., Md.

VINEGAR. HOW MADE FROM CIDER, WINE, Molasses or Sorghum in 10 hours, without using drugs. For circulars, address F. I. SAGE, Vinegar Maker, Cromwell, Conn. sep-1y

---

Pat'd Water-Proof Paper Roofing, Siding, Ceiling, Carpeting, Water Pipes, Eave Gutters, &c. Address

O. J. FAY & SONS, Camden, New Jersey.

ESTABLISHED IN 1837.

WILLIAM BROWN & SON,

PRACTICAL WATCHMAKERS.

JEWELRY, SILVER and PLATED WARE.

☞ A large and choice assortment of Gold and Silver Watches, Chains, Rings, Pins, Sleeve Buttons, Gold and Silver Pencils, Bracelets, Spectacles, &c.

jan-1y *S. E. Cor. Baltimore and Charles sts., Baltimore.*

Gaehle's Piano Manufacturing Company.

(Gold Medal awarded in 1865 by the Maryland Institute.

MANUFACTURERS OF

GRAND AND SQUARE PIANOS.

N. E. Cor. Eutaw and Fayette sts., Balto., Md.

oct-tf

25,000 PEACH TREES

Very fine early medium and late varieties, for Orchard and Garden culture, in quantities to suit purchasers. Also, Clinton, Concord, Ives' Seedling, Oporto and other

GRAPE VINES,

By the 100 or 1000. Wilson's Early, Dorchester, Kittatinny, Missouri Mammoth and Lawton BLACKBERRY PLANTS, in large or small quantities. Also Mammoth Cluster, Clarke, Philadelphia and other *Raspberry* and *Strawberry Plants.*

For Price, &c., address

HENRY K. HOW,
New Brunswick, N. J.

sep-3t

AUTUMN 1869.

Rochester Commercial Nurseries,

ESTABLISHED 1830.

The new CIRCULAR OF PRICES is just published, and will be sent free to all applicants. Also,

FINE COLORED PLATES

of the "*Mount Vernon*" Pear, and "*Marechal Neil*" Rose.

DESCRIPTIVE CATALOGUE, 80 pages, 10 cents. Address, **WM. S. LITTLE,**
Commercial Nurseries,
ROCHESTER, N. Y.

sep-2t

VICK'S
ILLUSTRATED CATALOGUE
OF
HYACINTHS, TULIPS, LILIES,
AND
Other Hardy Bulbs for Fall Planting,

Is now published, and will be sent FREE to all who apply. Address

JAMES VICK,
Rochester. N. Y.

sep-2t

FOR SALE.

EARLY ROSE POTATOES

By the bushel, barrel or 100 barrels. Also,

Strawberry, Raspberry and Blackberry Plants, Currant Bushes, Asparagus Roots, &c.

Send for a list of prices. CHAS. COLLINS,
Moorestown, N. J.

sep-3t

Bloomington Nursery.

500 Acres. 18th Year. 10 Green-houses.

Fruit. Ornamental and Nursery Stock, immense and reliable assortment very low for cash.

Apples—including most magnificent stock of yearlings—also hardy Northern sorts, such as Duchess Oldenburg, Hislop, Transcendent and other Crab Apples, 1, 2, and 3, year.

PEACHES, PEARS, CHERRIES, PLUMS, QUINCES, GRAPES FOREST AND EVERGREEN TREES, NURSERY STOCKS, OSAGE ORANGE HEDGE PLANTS, ROSES, own roots, TULIPS, HYACINTHS, NARCISSUS, IRIS, SQUILLS, LILIES, SPECIOSUM, AURATUM, &c.

Also superior colored plates of Fruits and Flowers.

Send 10 cents for Catalogues.

F. K. PHŒNIX,
Bloomington, McLean Co., Ill.

sep-3t

TO PLANTERS AND DEALERS.

	Per 1000.	Per 100.
200,000 one year old Concord Grape Vines	$20	$3.00
40,000 two year old Concord Grape Vines.	30	4.00
30,000 Philadelphia Red Raspberry Plants	35	5.00
50,000 Thornless Raspberry Blackcap.....	10	1.50
100,000 Doolittle Blackcap.....	5	1.00
50,000 Wilson Blackberry Roots.....	25	4.00
50,000 Kittatinny Blackberry Roots.....	25	4.00
25,000 Dorchester Blackberry Roots.....	15	2.00
50,000 Lawton Blackberry Roots.....	8	1.50
2,000,000 Wilson Albany Strawberry Plants	2	
10,000 Agriculturist Strawberry Plants..	4	1.00

Queen of Holland Strawberry Plants $3 per dozen.
Grape Wood, Concord, 85 cents per 1000 buds.
Asparagus Plants $5 per 1000.
Cranberry Plants $5 per bbl. Samples for 25 cents.

H. D. NYLAND,
Hammonton, N. Jersey.

sep-6t

Premium Farm Grist Mill.

This superior mill has been in use by a very large number of Farmers and Stock Feeders for many years and and it has attained a reputation for being the best Farm Mill in use

It is cheap, simple, durable and efficient. It is adapted to all kind of horse powers and grinds all kind of grain rapidly.

Also Manufacturers of an improved

FODDER, STRAW, AND HAY CUTTER.

Send for discriptive Circular, and address

Wm. L. BOYER & BRO.,
Philadelphia Pa.

sep-4t

Imported Fowls For Sale,

Bred Direct from Imported Stock.

Houdans, Sup. Imp. Brahmas, *unsurpassed*, weigh 28 lbs. *per pair* at *maturity*, Hamburghs, white Leghorns, and Black Spanish, *not excelled in the U. S.*

English Gray Dorkings, Sumatra Games, *imported* Silver Polands, *Improved* Black Cuyauga Ducks that weigh 25 lbs. *per pair.*

California Bronze Turkeys, *very superior.* Send stamps for large Descriptive Circular and Price List.

Address A. B. NEILL & CO.,
P. O. Box 219, New Lisbon, Ohio.

sep-3t

50,000 PEACH TREES
FOR FALL TRADE,

At the FRUIT HILL NURSERIES—of which 8,000 are the SALWAY PEACH, a variety that must be a favorite among fruit growers.

For further information and Lithograph of the Salway address J. MADISON PULLEN,
Hightstown, N. J.

sep-2t

Estey's Celebrated Cottage Organs,

FOR PARLORS, HALLS, CHURCHES, &c.

These instruments have won their way to public confidence on the strength of their

REAL MERITS,

and they are now generally admitted to be the

BEST

IN THE COUNTRY.

—IN—

Power, Purity of Tone,

AND IN

EASE OF TOUCH,

THEY HAVE NO EQUAL.

We offer greater inducements to Churches and Clergymen than any house in Baltimore.

READ THE FOLLOWING:

EMORY AND HENRY COLLEGE, VA., September 13, 1868.

HESSRS. H. SANDERS & CO.—*Gents:* The "ESTEY COTTAGE ORGAN" No. 34, with the Improvements, purchased of you last spring, comes fully up to your representations in its performances. It is a favorite from which we could scarcely be induced to part. JAS. A. DAVIS, *Prof. Nat. Sciences, Emory and Henry College.*

☞ Price Lists and Circulars sent to any address.

H. SANDERS & CO., 79 W. Fayette St.

dec-1y One Door from Charles St., BALTIMORE, MD.

FRUIT TREES!

THE SYRACUSE NURSERIES

OFFER FOR THE FALL SALE

PEAR, PLUM AND CHERRY TREES

In large amount and of unrivalled quality. Also, PEAR SEEDLINGS, 1 year and 2 years, transplanted, extra fine.

The attention of Nurserymen, Planters and Dealers is solicited, and a free personal examination of our stock invited.

We have a fine general assortment of Nursery Stock in all the departments, including the

SMALL FRUITS, ROSES, BULBOUS ROOTS, &c.

And those who buy in quantity will be supplied at low wholesale rates. For further information apply to

sep-2t SYRACUSE, N. Y., Sept. 1869. SMITH, CLARK & POWELL, Proprietors.

Southern Stock Farms!

Improve Your Stock!!

We are now prepared to fill orders more promptly than during the past year and a half; having at great cost and care in selection, increased our Breeding Stock of

CHESTER WHITE HOGS

To a capacity that will enable us to supply our customers at shorter notice. We also have the finest stock of

SUFFOLK HOG

And warranted both to be pure and as good as any offered. Send for circular of prices and instructions necessary for the management of Swine. Fine Brahma and other improved fowls at reasonable rates. We cordially solicit your patronage

JENKINS, SKILES & CO.,

sep-tf Thomasville, N. C.

Peach Trees. Peach Trees.

An unusually heavy stock at low rates, strong and thrifty, 4 to 6 feet high, best market kinds. A complete line of stock in every department. The

"BOOK OF EVERGREENS,"

A practical treatise on the cane-bearing plants, by Josiah Hoopes. Sent per mail, prepaid, on receipt of price, $3.

HOOPES BRO. & THOMAS,

Cherry Hill Nurseries,

sep-2t West Chester, Pa.

MOUNT HOPE NURSERIES,

ROCHESTER, N. Y.

This well-known establishment, founded 30 years ago by the present proprietors, and conducted ever since and at the present time under their personal supervision, now offers the largest and most complete stock in the country, embracing:

STANDARD AND DWARF FRUIT TREES,
GRAPES AND SMALL FRUITS,
ORNAMENTAL TREES AND SHRUBS,
NEW AND RARE FRUITS OF ALL SORTS,
NEW AND RARE ORNAMENTAL TREES.

The collection in both departments, useful and ornamental, is the largest in the U. S. Extensive specimen grounds are maintained at great expense, to determine qualities and insure accuracy in propagation.

Orders for large or small quantities promptly and carefully filled. Packing performed in the most skillful and thorough manner.

Small parcels forwarded by mail when desired.

Nurserymen and Dealers supplied on liberal terms.

Descriptive and Illustrated priced Catalogues, sent prepaid on receipt of Stamps, as follows:

No. 1.—Fruits, 10c. No. 2.—Ornamental Trees, 10c,
No. 3.—Green-house, 5c. No. 4.—Wholesale, FREE.

Address—

ELLWANGER & BARRY,

sep 2t ROCHESTER, N. Y.

SAUL'S NURSERIES,

WASHINGTON CITY, D. C.

The undersigned offers for the fall trade an extensive general Nursery Stock of finest quality and at very moderate rates.

FRUIT TREES—Pears, standard and dwarf; Apples, Peaches, Cherries, Apricots, &c.

GRAPE VINES—Concord, Delaware, Adirondac, Clinton, Ives', Pents. &c., for vineyard planting, at low rates—also, Martha, Black Hawk, Weehawken, Iona, Israella, &c.

STRAWBERRIES—The new varieties, with the standard kinds which succeed best in this latitude.

BLACKBERRIES, Raspberries, Gooseberries, Currants, Asparagus and Rhubarb Roots.

ROSES—All the new varieties of '68 and '69, including Miss Ingland, Mareschal Niel, &c.

EVERGREENS—Retinosporas in variety, Rhododendrons, Norway Spruce, Silver Fir, Austrian and Scotch Pine, and a large stock of small sizes, suitable for Nurserymen.

New Double Geraniums, new Zonale and Variegated Geraniums, &c.; new Clematises, new Euonymus, Ivies, new Chrysanthemums, new Phloxes, &c., with a large collection of new and beautiful Plants, which he offers to the notice of Nurserymen, &c.

Bulbous Roots of finest quality, direct from Holland.

Catalogues mailed to applicants.

sep-2t JOHN SAUL, Washington, D. C.

STEPHEN HOYT & SONS,

New Canaan, Conn.

Offer for sale:

100,000 Peach Trees, one year from the bud.
15,000 Van Buren's Golden Dwarf Peach Trees, one year from the bud.
75,000 Standard Apple Trees, 2 to 4 years from the bud.
10,000 Dwarf Apple Trees, 2 years from the bud.
10,000 Dwarf Pear Trees, 2 years from the bud
75,000 Concord and Hartford Prolific Grape Vines, one and two years old.
25,000 Cherry and La Versailles Currants.
50,000 Clarke and Philadelphia Raspberries.
30,000 Early Wilson, Kittatinny, and Lawton Blackberries.
500,000 Apple Seedlings, one and two years old.
With much other Nursery Stock.

Address as above. sep-2t

CRESYLIC SOAPS

AND

Saponaceous Compounds,

PATENTED.

Manufactured under License solely by

Jas. Buchan & Co.,

190 ELIZABETH ST.,

NEW YORK.

And for sale by Druggists, Grocers, Seedsmen and Dealers.

For the first time available compounds of this acid are offered to the Horticulturist. They are so destructive of fungus and insect life, and so obnoxious to the latter, that both the Horticulturist and the Farmer will understand their value.

The Acid itself will not COMBINE with water, and if mixed mechanically and syringed upon plants, the water runs off, leaving the acid, which scorches and destroys the leaves. Hence the necessity for these Compounds, which not only spread freely over the leaf, but are lasting in its effects. The compound known as

PLANT PROTECTOR,

Is a soluble Soap, easily dissolved in hot water, to which cold water may be added until of the desired strength. For trees, and strong growing plants in open air, 5 lbs. of the PROTECTOR to 50 or 100 gallons of water will, as a rule, prove strong enough. For use in-doors a weaker solution will suffice.

Sold in	1 lb.	Canisters,	at 50 Cents.
	3 "	"	$1.00
	5 "	"	1.25
	10 "	"	2.25
	50 lb.	Kegs, at	10.00

Larger packages put up, if ordered, and at less price.

Applied undissolved to the stems of young trees, it will afford complete protection from rabbits, mice, squirrels, &c.

Laundry and No. 1 Soaps,

For use in Scrubbing and in the Laundry.

Carbolic Disinfectant Soap.

For convenient use in washing horses, dogs, cattle, &c., destroying fleas and other vermin, and completely protecting from flies; curative of sores, scratches, and chaps of all kinds. 40 cents per lb.

SHEEP DIP.

For curing scab, and destroying insects on Sheep. Put up in same form, and at same price as PLANT PROTECTOR.

FOOT ROT OINTMENT.

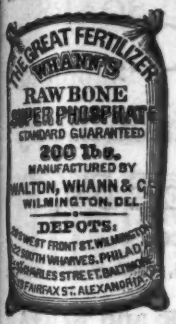
A certain cure for this dangerous pest, in 3 lb. Canisters, at $1.

CRESYLIC SOFT SOAP.

For floors, bedsteads, jails, hospitals, &c., where insects of any kind are troublesome, or where foul odors, or infectious and malarial diseases prevail. In same package and at same price as the PROTECTOR.

Also Staple Soaps of all grades.

FRANK LEWIS,
AGENT FOR MARYLAND,
jan-tf *No. 4 South street, Baltimore.*



WHANN'S
Raw Bone Super Phosphate,

THE GREAT CROP PRODUCER,

And complete renovator of worn-out soils. An active, durable and reliable article. Try it and be convinced as others have been that it is the best that you can buy.

Price $56 *per ton, packed in* 200 *lb. bags,* 10 *bags to the ton.*

E. G. EDWARDS, Agent,

aug-3t **57 S. Calvert st., near Pratt, Baltimore, Md.**

REDONDA GUANO.

A pure, natural Guano, direct from REDONDA ISLAND, W. I. Ready for immediate use and requiring no preparation.

THE

Cheapest Fertilizer in the market.

Has been successfully applied upon every variety of crops, as attested by numerous certificates from well known and intelligent farmers from all parts of the country.

☞Send for pamphlets, containing Certificates and full directions for use.

Price $30 Per Ton.

A liberal deduction made to dealers and purchasers of large quantities.

WM. CRICHTON & SON,
GENERAL AGENTS FOR U. S.,
Wood street, Bowly's Wharf,
aug-3t BALTIMORE.

N. W. SLADE & CO.

PROPRIETORS OF THE
CANTON AGRICULTURAL WORKS,
BALTIMORE, MD.
MANUFACTURERS OF

Agricultural Implements and Machinery,

Improved Double and Triple Screen

☞DIXIE FANS.☜

CORN SHELLERS, four sizes; Improved MARYLAND HAY AND FODDER CUTTERS, three sizes.

☞Southern Giant Cider Mills.☜

HORSE POWERS and THRESHERS, Improved RICE THRESHERS and FANS, FARM MILLS, for Grinding all kinds of Grain, PLOWS, HARROWS and CULTIVATORS.

Maryland Farmer Steel Tooth Rake.

The only independent Tooth Rake in the country; each Rake has 20 Steel Teeth. Farmers and dealers would do well to send their orders early.

Warehouse, 172 W. Pratt st.,
may-6t BALTIMORE, MD.

PENNSYLVANIA AGRICULTURAL WORKS,
York, Pennsylvania.

Wholesale manufacturers of Cultivator Teeth, Plow Steel, Agricultural Castings, Horse Powers, Threshing Machines, Cultivators Steel Plows, Plow Handles, and standard agricultural implements generally.

Especial attention, of the trade and farming community, called to our celebrated Iron Geared *Horse Powers*, largely used in the South for ginning cotton, threshing grain, sawing wood, and propelling mills. It is warranted stronger, more durable, and lighter of draught than any other in the Market.

PLOW HANDLES.

Having improved machinery for manufacturing Plow Handles on the largest scale, we can supply the trade at the shortest notice with all sizes of No. 1 Plow Handles.

Address A. B. FARQUHAR,
nov-tf York, Pa.

SMALL FRUIT INSTRUCTOR.

"What makes it valuable is because it contains so much practical, original matter in such a small space."—JOHN J. THOMAS.

"The directions for growing Strawberries and Raspberries are the best I have ever seen."—HENRY WARD BEECHER.

We could give hundreds of just such testimonials, showing the value of this little work. It should be in the hands of every person, whether the owner of a rod square of ground or a hundred acres. Tree agents should have a copy. It contains 40 pages. Price 10 cents. Full price list, wholesale and retail, and also terms to agents and those desiring to get up a club for plants, sent FREE to all applicants. Parties at the South should order plants in the fall. Address PURDY & JOHNSTON, Palmyra, N. Y., or PURDY & HANCE, South Bend, Ind.
aug-3t

SINCLAIR & CO.,

MANUFACTURERS OF

Agricultural Implements and Machinery,

GROWERS AND IMPORTERS OF

GARDEN AND FIELD SEEDS,

No. 62 LIGHT STREET, Baltimore.

We have on hand the following PREMIUM LABOR SAVING MACHINES, which will be sold at all times at the lowest market prices, viz:

SINCLAIR'S PATENT CORN STALK, FODDER and SUGAR CANE CUTTER and MASTICATOR,

Sinclair's Patent Screw Propeller Straw and Hay Cutters,

FOR HAND AND HORSE POWER,

Reading's Patent Horse Power CORN SHELLER and Cleaner,

HAND AND POWER CORN SHELLERS

OF DIFFERENT PATTERNS AND SIZES,

PLANTATION GRIST MILLS, all sizes,

Made from Cologne and French Burr Stones, or Iron Cones.

CORN & COB CRUSHERS & CORN MEAL MILLS Combined.

"NEW YORKER" SELF-RAKE REAPER AND REAPER AND MOWER COMBINED.

This *Reaper* took the Gold Medal at the Great Field Trial held at *Auburn, N. Y.*, in July, 1860, as the best Self-Rake on the ground.

Monitor Mowers---3 Sizes.

This Mower we can recommend as the best in use.

BUCKEYE AND CASES RIDING SULKY CORN, TOBACCO AND COTTON CULTIVATORS.

Maryland Self-Discharging Hay and Grain Rakes,

THE BEST IN USE.

SINCLAIR & CO'S IMPROVED CORN PLANTER,

PRICE'S PATENT PREMIUM COTTON PLANTER,

ALDEN'S PATENT HORSE HOE,

HORSE POWERS, all the different patterns and sizes,

THRASHERS AND SEPARATORS,

THRASHERS AND STRAW CARRIERS,

WHEAT GLEANERS, Revolving Hay Rakes,

GRAIN CRADLES, *with iron brace, our own make.* *WHEAT and GUANO DRILLS, PLOWS, HARROWS and CULTIVATORS, PLOW and MACHINE CASTINGS.*

The above named Machines are our own manufacture, and such as we can recommend with nfidence to our friends and customers.

All goods made and sold by us guaranteed to give entire satisfaction.

mar-tf R. SINCLAIR & CO.

ZELL'S
AMMONIATED
BONE SUPERPHOSPHATE,

For Wheat, Rye, Corn, Oats, Potatoes,

☞ Turnips, Cabbage, Grass, Cotton, Tobacco, &c.

Permanently improves the Soil. Quick and active as Peruvian Guano.

☞For this Valuable Fertilizer, we only ask a trial side by side with any in the market to attest its superiority.

P. ZELL & SONS,

89 SOUTH STREET, Baltimore, Md.

Price $60 per ton, in Bags or Barrels, at Baltimore.

☞For sale by Agents and Dealers throughout the Country. sep-2t

---

POOLE & HUNT,

BALTIMORE,

MANUFACTURERS OF

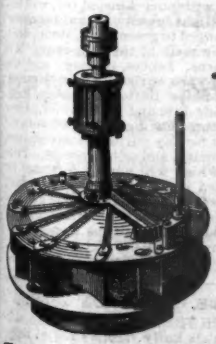
STEAM ENGINES AND BOILERS,

STEAM FIRE ENGINES,

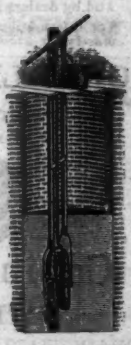
LEFFEL'S

☞PATENT AMERICAN

DOUBLE TURBINE



WATER-WHEEL



MORRELL'S

DEEP WELL & FORCE PUMP,

Saw Mills, Mining Machinery, Portable Grist Mills,

ROBERTS' BURR REGULATOR,

Flouring Mill Machinery, Cotton Screws, Shafting, Pulleys and Hangers.

SEND FOR CIRCULARS. mar-1y

Notice to Purchasers
OF
WATCHES, FIRST CLASS
CLOCKS,
Silver & Plated Ware, Table Cutlery,
GOLD EAR RINGS, BREASTPINS,
Gold Chains, Lockets,
And every kind of New EUROPEAN GOODS.

With an Agent residing in Paris, I can, at my Store, Corner of Water and Calvert streets, supply Dealers at all times with new patterns; and where all kinds of Watches and Jewelry will be repaired.

GABRIEL D. CLARK,
Cor. Water and Calvert streets,
BALTIMORE, Md.
may-1y

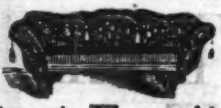
BOWER'S
COMPLETE MANURE,
MANUFACTURED BY
HENRY BOWER, Chemist,
PHILADELPHIA
MADE FROM
Super-Phosphate of Lime, Ammonia & Potash.
WARRANTED FREE FROM ADULTERATION.

This Manure contains all the elements to produce large crops of all kinds, and is highly recommended by all who used it, also by distinguished chemists who have, by analysis, tested its qualities.

Packed in Bags of 200 lbs. each.

DIXON, SHARPLESS & CO.,
AGENTS,
39 *South Water and* 40 *South Delaware Avenue,*
PHILADELPHIA.
FOR SALE BY
WILLIAM REYNOLDS,
79 SOUTH STREET, Baltimore, Md.
And by dealers generally throughout the country.
For information, address Henry Bower, Philadelphia.
mar-1y

CHARLES P. STEVENS,
Successor to S. S. Stevens & Son,
MANUFACTURERS OF



Cabinet Furniture,
MATTRESSES, CHAIRS,
AND
Every Article pertaining to the business.
WAREHOUSE AND OFFICE,
No. 3 SOUTH CALVERT STREET,
FACTORY, No. 6 LOW STREET,
oct-tf BALTIMORE, Md.

WEST'S
Improved
Double-Acting, Anti-Freezing,
FORCING AND LIFTING
PUMP.
ADAPTED FOR
Shallow or Deep Wells, Cisterns, and House Purposes;
For Filling Tanks and Reservoirs, &c., &c.
Warranted to be the cheapest and most durable Pumps in use.
FIRST PREMIUMS
Received at the State Fairs in New York, Baltimore, St. Louis and Richmond.
Circulars and Price-Lists sent by mail on application.
A. REUTER & SONS,
july-6t 15 *N. Howard street, Baltimore.*

HENRY GIBSON,
MANUFACTURER OF
TUBULAR DRAINS
In Glazed Stoneware.
ALSO—
DRAIN TILES.
LOCUST POINT,
nov-tf Baltimore.

Paints for Farmers and Others.

The Grafton Mineral Paint Co. are now manufacturing the Best, Cheapest and most Durable Paint in use; two coats well put on, mixed with pure Linseed Oil, will last 10 or 15 years; it is of a light brown or beautiful chocolate color, and can be changed to green, lead, stone, drab, olive or cream, to suit the taste of the consumer. It is valuable for Houses, Barns, Fences, Carriage and Car makers, Pails and Wooden-ware, Agricultoral Implements, Canal Boats, Vessels and Ships' Bottoms, Canvas, Metal and Shingle Roofs, (it being Fire and Water proof,) Floor Oil Cloths, (one Manufacturer having used 5,000 bbls. the past year,) and as a paint for any purpose is unsurpassed for body, durability, elasticity, and adhesiveness. Price $6 per bbl. of 300 lbs., which will supply a farmer for years to come. Warranted in all cases as above. Send for a circular which gives full particulars. None genuine unless branded in a trade mark, Grafton Mineral Paint. Persons can order the Paint and remit the money on receipt of the goods. Address BIDWELL & CO.,
sep-6t 254 Pearl Street, New York.

PEACH TREES. FALL OF 1869.

A large stock of PEACH TREES of standard and market varieties, such as Hale's Early, Troth's Early, Large Early York, Crawford's Early, Old Mixon Free, Stump the World, Crawford's Late, Ward's Late Free, Late Barripe, Smock and Salway; Van Buren's Golden and Italian Dwarfs. Also a general Nursery Stock of Fruit Trees, Small Fruits, Vines, &c. Price list furnished on application. THOMAS J. PULLEN,
Successor to Isaac Pullen,
aug-4t Hightstown, New Jersey.

The Farmers' Favorite.

GREATLY IMPROVED.

BICKFORD & HUFFMAN'S

WORLD RENOWNED PREMIUM

GRAIN DRILL,

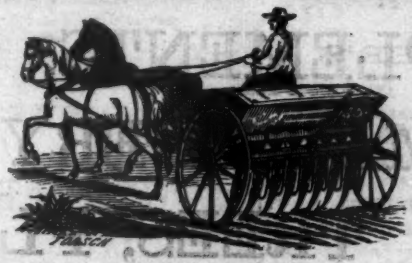
WITH THE

IMPROVED GUANO ATTACHMENT AND GRASS SEED SOWER.

Patented April 22, 1856.

Re-issued May 18, 1858.

Patented Aug. 18, 1858.



New Patent Mar. 19, '67,

OF THE

CONTINUOUS

Grain Distributor.

The Desideratum of Seeders!

Perfect in Mechanical Construction!

Perfect in its Performance of Work!

Sowing all grains, from the coarsest Marrowfat Peas to the finest kerneled, *with accuracy*. Thistle balls and dirt do not clog it. Seeding an even continuous stream through each tube; performing equally well up hill or down, side hill or level.

No Bunching of Grain!

No Liability to Get Out of Order or Broken!

Built as a plain Grain Drill or with Compost or Seed Attachment.

PRICE OF THE BICKFORD & HUFFMAN DRILL,

Delivered on Boat or Cars at Baltimore.

8 Tube Grain Drill	$85 00
9 " " "	90 00
8 Tube Grain Drill, with Guano or Plaster Attachment	125 00
9 " " " " " " "	130 00
Grass seed attachment to either of the above	10 00

TERMS CASH—or endorsed Notes, due in four months, with interest.

☞Purchasers in all cases pay freight from Baltimore.

For one of these incomparable Machines, address

W. L. BUCKINGHAM,

GENERAL AGENT,

No. 59½ South Charles street,

BALTIMORE, MD.

mar-tf

AMERICAN FARMER

PURCHASING AGENCY,

FOR THE CASH PURCHASE OF

FERTILIZERS,

IMPLEMENTS,

MACHINERY,

TREES, PLANTS,

And SEEDS,

And other articles required by Farmers and Planters.

☞ **Without Charge of Commission to our Subscribers.**

Having no personal interest whatever in any of the above mentioned, we are enabled to make unbiassed selection, and we will purchase from such sources only as are believed to be entirely reliable.

☞ *Purchases made for* CASH *only, and orders must be accompanied by a remittance to cover cost.*

ADDRESS:

WORTHINGTON & LEWIS,

"American Farmer" Purchasing Agency,

No. 4 South street, Baltimore

may-tf

Important to Farmers!

SUPER PHOSPHATES.

THE MARYLAND FERTILIZING AND MANUFACTURING CO.

INCORPORATED JANUARY, 1867.

DIRECTORS.

WM. G. HARRISON,
LAWRENCE SANGSTON,
ROBERT TURNER,
WILLIAM TREGO,
Manufacturing Chemist.

CHARLES J. BAKER,
RICHARD J. BAKER,
WILLIAM TREGO,
LAWRENCE SANGSTON,
President.

The wheat crop of 1868 has fully demonstrated the superiority of the SUPER-PHOSPHATE prepared by this Company: in all cases they have proved equal to the most costly articles in the market, Peruvian guano included, and vastly superior to the mass of material palmed off on the agricultural community under the name of "fertil-izers."

The Phosphatic base is derived entirely from the Fossil Bone Phosphates of South Carolina, assimilating to, but containing 10 per cent. more Bone phosphate of Lime than the best ground bones, and containing 50 per cent. more of *Soluble Phosphate* than any of the Phosphatic guanos of the West India Islands.

FINE GROUND BONE PHOSPHATES,

Price $30 Per Ton, in Bags.

Containing by the average of the Analyses of Professors Piggott, Leibig and Applein, 60.20 per cent. of Bone Phosphate of Lime.

The unusual per centage of *Soluble* Phosphate will make this form very desible to farmers who prefer to use it in its natural state, or to manipulate for themselves.

AMMONIATED SUPER PHOSPHATE,

PRICE $55 PER TON, IN BAGS.

Adapted to lands that require a full development of the crop, both straw and grain.

COTTON AND TOBACCO FOOD.

PRICE $60 PER TON, IN BAGS.

Specialties for the Cotton and Tobacco Plants, rich in Ammonia, Potash and Phosphates, but adapted to all plants that require a prompt and vigorous growth.

Letters and certificates from large numbers of prominent Farmers and Planters can be examined at the office of the Company.

The various preparations of the Maryland Fertilizing and Manufacturing Company are made under the personal supervision of a Manufacturing Chemist of thirty years experience, and are confidently recommended to the Agricultural community.

LAWRENCE SANGSTON, President,

Sep-2t *Office, 58 Exchange Place, Baltimore, Md.*

THOMAS NORRIS & SON,

MANUFACTURERS AND DEALERS IN

Agricultural Implements and Machinery,

141 PRATT STREET, BALTIMORE,

Keep constantly on hand a good stock of the most useful Implements and Machinery of every description. They continue to keep on hand the following valuable Machinery:

WESTINGHOUSE THRESHERS and CLEANERS,

Pelton's Horse Powers of the best make,

Bickford & Huffman's GRAIN & GUANO DRILLS,

THE BEST IN THE COUNTRY,

Novelty Horse Rakes on Wheels, very good,

The well known VAN WICKLE WHEAT FANS,

Also, MONTGOMERY'S ROCKAWAY FANS,

HARROWS, PLOWS, CULTIVATORS, &c., &c.

Fresh and Genuine FIELD and GARDEN SEEDS.

FERTILIZERS, GUANOS, BONE DUST.

☞SEND FOR A PRICE LIST.

☞We are prepared to repair, in best manner, Bickford & Huffman's Drills, Wood's Mowers and Reapers, Westinghouse Threshers and Cleaners.

THOMAS NORRIS & SON,
141 Pratt street, Baltimore.

july-tf

Increased Success of
BAUGH'S
RAW BONE PHOSPHATE.

The Wheat crop just harvested has been increased by the use of this fertilizer in many instances from 100 to 200 per cent., and the after crop of grass is largely increased for years by its use.

Its value has been demonstrated by thousands of the best Farmers and Planters throughout the South, after a trial of fifteen years.

Full particulars of its manufacture, action and success, can be found in "The Farmers' and Planters' Magazine," distributed by my agents, or I will mail free, a copy to any one sending me their address.

Baugh's Raw Bone Phosphate can be had of dealers at all prominent points.

GEO. DUGDALE, *Manufacturer's Agent,*
97 SMITH'S WHARF, Baltimore.

aug-3t